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Journal of the Minnesota State Medical Association, Southern Minnesota Medical Association, Northern Minnesota Medical Association, Minnesota Academy of Medicine and Minneapolis Surgical Society

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CO-OPERATION BETWEEN THE PHYSICIAN AND THE CANCER SOCIETY

A. E. CARDLE, M.D.

President, Minnesota State Medical Association
Minneapolis, Minnesota

THE common aim of both the medical profession and the American Cancer Society is cancer control. The society has certain means with which it hopes to aid in this control. The medical profession also has certain ways in which it hopes to aid. There must, of course, always be the most friendly understanding between these two as to methods and policies. For after all, the "control of the disease" is the goal to be achieved, and all ideas must point to this goal. I wish, therefore, to point out briefly the progress which is being made in this fight for cancer control.

Cancer control today is fortunately not the hopeless problem that it was a few years ago, and the untiring efforts of the American Cancer Society are contributing substantially to the progress being made. This organization, with all of its component parts, can take just pride in the fine record of achievement it has made since its founding in New York in 1913, while realizing that the task which lies ahead for it is still an infinitely challenging one.

The society's three-pronged attack on the disease—research, education and service—is doing much to dispel the gloomy atmosphere that has surrounded cancer, and to replace with hope the pessimism with which this disease has been regarded in years past. The American Cancer Society now has a permanent national program for educating the general public on cancer. This program is recognized and fully approved by the medical profession. Intensive educational campaign in the various types of cancer, such as cancer of the breast or of the uterus, are bearing fruit as more and more women become alert to the danger signals and seek help in time. Literature, films, exhibits and speakers have been provided on a broad scale. The medical field representatives of the society are moving about the country stimulating and directing local interest and activity wherever their help is desired. This is of utmost importance. The society's program was formally endorsed by the House of Delegates of the American Medical Association in December, 1945. Noteworthy is the fact that the society has always worked in close co-operation with the medical association—at the national, state and local levels. All of its literature is either prepared or carefully scrutinized by fully qualified medical authorities. Its projects have always been closely supervised by doctors, and all programs have medical approval before they are instituted.

The medical profession is also battling this disease on a steadily increasing scale. Cancer committees of state and county medical societies have been organized to help with educational work among medical men. The Minnesota State Medical Association appointed a cancer committee in 1919 and continues to maintain it. The importance of the cancer committee of the state medical association cannot be overemphasized. In several states, including our own, the cancer committee has prepared scientific booklets and pamphlets for distribution to practitioners to acquaint them with the latest methods of cancer diagnosis and treatment. This activity, in turn, has helped to change many a doctor's attitude toward the disease.

Much credit is due members of the Women's Auxiliary whose unceasing efforts in the field of cancer education are producing especially encouraging results. Much of the work carried on

Read at the annual meeting of the Minnesota Division, American Cancer Society, January 20, 1948, University Campus, Minneapolis.

by these women is directed at children of school age, and I believe everyone would agree that if fullest public co-operation in the battle against cancer is to be attained in the future, it must stem to a large degree from properly educating now the children who will be tomorrow's citizens.

Another group having a tremendous influence for good in the cancer fight is the American College of Surgeons. This body has demonstrated the genuine desire which the medical profession has generally, that is, to co-operate with other responsible groups in the cancer control field and to see that the highest possible standards are maintained in the care and treatment of cancer patients. Through the efforts of the American College of Surgeons, cancer clinics with qualified personnel and adequate equipment are being established throughout the country. Starting with only a few such clinics, there are now well over 400. The College inspects them and approves only those maintaining established standards. The educational effect of this practice is very noticeable. People today demand better and more thorough examinations and more careful diagnosis in cases of suspected cancer than they ever did before these high-type cancer clinics were established.

The nature of cancer has an important bearing on the type of control program that can be carried on. Not only must the disease be fought, but so must fear of the disease, which in uninformed or partially informed minds can and often does approach terror. Because of this deeply rooted fear of cancer, any facts which are released concerning the disease must be presented very impersonally, yet, at the same time, the facts themselves—the symptoms of the disease, its diagnosis and treatment—are of a highly personal nature. Confidence must be built up in the minds of the public, and yet hopes must not be raised unduly. Truth and only truth must be presented, but it must be presented from the positive, optimistic angle. Here, doctor and lay worker have an obligation to co-operate fully for best results. There must be complete understanding on the part of both doctors and patients of the relative merits of surgery and radiology in cancer therapy—overenthusiasm for one must not be allowed to overshadow the other. The need for careful and accurate physical examination, whether cancer is or is not suspected, is vital. Superficial diagnoses must not be tolerated, and they can most quickly be abolished when an intelligent lay public spurs the medical profession to put forth its best efforts.

Cancer education would be meaningless without facts with which to work. These facts are brought to light, one by one, in scores of countless laboratories by painstaking research workers. During the war we became aware of the life-saving potentialities of scientific research. Penicillin, sulfas, dried blood plasma and other wonders were rushed from the laboratory to the firing line, where they helped to save thousands of young men who would otherwise have died. Today, research in cancer faces a future of limitless possibilities. For example, research has shown how to produce and control the disease in laboratory animals. It has revealed also the difference between the normal cell and the cancerous one. Support for this all-important research is badly needed. Fortunately, several organizations including the American Cancer Society are extensively supporting cancer research, for cancer research needs financial support and trained workers. More substantial support of the cancer laboratory will pay big dividends in probing cancer's secrets, and the only way we can ever conquer cancer is to learn *all* of its secrets.

Here in Minnesota, where cancer claims over 4,000 lives annually, several research projects are being developed. Recently approved by the medical Association was the establishment of a Tumor Registry and Statistical Research Service at the Minnesota Department of Health. This project was created to fill the need for more information on the general cancer picture in the state. Up to the present time, the only statewide record of this disease has come from reports of cancer deaths to the division of vital statistics. Much valuable information on cancer cases, living and dead, is available from hospital records. In the hope that comprehensive information about cancer in Minnesota will lead to better understanding of the problem, the Cancer Control Division of the State Health Department is planning, by means of the tumor registry, to carry out a statewide statistical study of the cancer situation in Minnesota and to supply the medical profession of the state with all the available data. This will include information regarding the incidence, types, forms of treatment, facilities available for diagnosis and treatment, results of different types of treatment, and so on.

It is contemplated to carry out this study for a period of years by collecting data from reports of cancer cases by hospitals, clinical pathologists and dermatologists. The Minnesota Hospital Association has pledged to support the project. Hospital record librarians will co-operate in assembling the data. Clinical pathologists will be requested to send in copies of reports on tissue examinations which are positive for cancer. Reports of autopsies on cancer cases will be obtained, if possible, from hospital records. Skin specialists will be asked to report on cancer cases seen by them, since such cases often do not enter the hospital. In all, every attempt will be made to obtain as complete data as is possible.

The legal liability of a physician or hospital in giving information which might be considered privileged has been raised. The attorney general has ruled, however, that the health department can require such reports, thus exempting the physician and the hospital from responsibility. In the project, the health department will employ experts to file and interpret the data. Every modern device will be employed for filing and analyzing the material in the reports, and when assembled, it is planned to publish the findings and make the information gleaned from the project available to the medical profession of the state.

Cancer has often aptly been described as a silent disease in its early stages, since all too often cancers go undiscovered until too late. Here, then, is another challenge for the field of research: to seek methods which may detect earlier than otherwise not only cancer but precancerous conditions or areas of chronic irritation which might lead to cancer. That is the idea behind the formation of the cancer detection center. At the cancer detection center a group of apparently well persons will be furnished a prescribed physical examination with special emphasis on conditions which might become cancerous. These people, all over the age of forty-five, will be studied and observed over a certain period of time. A sharp rise in the frequency of cancer occurs in men and women after this age. Therefore, if patients forty-five or over are selected for study, it is entirely possible that much valuable information may be obtained. It is of prime importance that the persons selected for study be in apparent good health. This is only logical, since the persons most often claimed by cancer are apparently well—until it is too late.

In establishing standards for approval of cancer detection centers, the American College of Surgeons and the American Medical Association agreed that there should be definite limitations on what a detection center could do. It was decided that a detection center should concern itself primarily with investigation and research and that it should not treat patients. Therefore, each person is given a thorough physical examination with particular attention to conditions or areas which might develop cancer. When cancer is discovered, the patient is referred to his own family doctor, who is given a complete report on findings at the center. Establishment of such a center is a tremenrous forward step, and its success, of course, will depend upon the attitude and cooperation of all people involved.

The patient himself is the first line of defense against cancer. It is up to him to know the danger signals and to seek help when they appear. At this point, tactful education, such as is carried on so splendidly by the American Cancer Society, makes its greatest contribution. Only the prospective patient can recognize the danger signs, and he must therefore be the person to report his suspicions to his doctor. Proper education will not only counteract fear and dread but also the false modesty which for some women has proved an ally of death. In the past, persons have avoided medical aid until the deadline for saving their lives is past, for fear of being laughed at for their suspicions, or of being called a "cancer phobe"; for fear of embarrassing examinations, fear of learning the truth, desire to avoid worrying the family, fear of doctors and of maiming illness, fear of surgery. Doctors can do much to combat these emotional reasons. A friendly, helpful attitude on the part of the examining physician will do much to reassure a timid or distressed patient.

Fears also arise from economic reasons—inability to meet the cost of medical care, financial obligations to dependents, fear of losing a job. Lack of funds need not discourage a patient from seeking competent medical service, for all physicians of recognized ability give due consideration to the financial situation of the patient, and all reputable hospitals regulate their charges accordingly.

Finally, there are those people who delay their visit to the doctor because of a lack of knowledge

about cancer: they have no pain, they can go on working, hence they cannot be sick. Or perhaps their cancer resembles some common ailment like a cold sore or a case of eyestrain. Then, too, they may have interpreted their own symptoms and may be treating them with the help of family, friends, home remedies, patent medicines—or, even worse, they may have fallen victim to a cancer quack, of whom there are many, I am sad to say. Under no circumstances is it wise to select for treatment of cancer a person who advertises a cure for cancer or demands that a fee be paid in advance, or who is not willing to call another physician in consultation when necessary. Such methods are not practiced by reputable medical men. In view of the seriousness of every cancerous conditions and the frequent rapidity of its progress, it is criminal to waste valuable time and money by trifling with unscientific remedies or nonmedical persons who are not competent to treat this disease.

Thus the patient is the first line of defense against cancer. The second line of defense is the physician. The medical profession is recognizing more and more its heavy responsibility to strengthen our defenses against all cancer. The medical association of our state and those of several other states have published manuals for physicians containing scientific facts on cancer and have attempted to stimulate interest in the disease by conducting lectures and short postgraduate courses on cancer. Even though health education in cancer is making people "cancer conscious," it is recognized that the patient cannot diagnose or cure his own cancer. All one can do is watch for the signs and consult a physician immediately if any such signs appear. From that time on, assuming the patient is co-operative, the responsibility rests upon the physician.

Now it is all very fine and impressive for the members of the medical profession to work together to educate the public and to support cancer control collectively. But after all, it must be admitted that the family physician to whom the patient will probably go first is the No. 1 man on the firing line. The saving of cancer patients is dependent on keen observation and knowledge on the part of the practitioner, not the surgeon or specialist. The family doctor must read the signs and take appropriate action, or refer the patient to someone who can. The medical profession is not quite content with telling the public what ought to be done. It has also made certain through its journals, meetings and postgraduate courses that doctors have every opportunity to prepare themselves to render the best possible service to their cancer patients through the possession of up-to-date knowledge and techniques. Here is where the doctors not only co-operates best with the cancer society, but where he lives up to the ideals of medicine.

There is a third line of defense against cancer—and it is highly important, for without it, the other two defenses, important as they are, will be worthless. This final line of defense is the doctor trained in pathology, surgery or radiology —the man who can actually eradicate cancer from the human body. Accurate diagnosis is of no avail without competent treatment.

Altogether, the recent trends in cancer mortality are encouraging and there is reason to believe that real gains are being made, that cancer deaths are beginning to come under some control. During the past ten years, noticeable progress has been made, particularly among women. The educational campaign is progressing rapidly and with good results. Here in our state the Minnesota Division of the American Cancer Society maintains an excellent information service. Last year, as one indication of the public interest stimulated by the Minnesota Division, there were received 900,000 actual requests for information on cancer, which were filled by the Division. The Minnesota Division has also been working through the schools and has printed a study outline on cancer for secondary schools, which is correlated with the State Education Department's health education course. It is entirely optional, but students are becoming interested, as evidenced by the 16,000 requests for cancer information from high school students received last year.

Steadily increasing control over cancer may be attributable to other factors of education. The close relation, for example, between cancer of the cervix of the uterus and neglected birth injuries is recognized. Improved obstetrical and maternity care is undoubtedly greatly reducing such cancers among women. Similarly, attention to mouth hygiene is reducing cancers of the mouth. But far more important in the total picture is the constantly increasing number of physicians trained to deal effectively with the disease, the marked increase in public and private facilities

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VAGOTOMY IN THE TREATMENT OF IDIOPATHIC ULCERATIVE COLITIS AND REGIONAL ENTERITIS

CLARENCE DENNIS, M.D., FRANK D. EDDY, M.D., and DARRELL WESTOVER, M.D.
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AS one of us reported to the Minneapolis Surgical Society three years ago, the proper application of surgical therapy to idiopathic ulcerative colitis at the University of Minnesota Hospitals in the years 1934 to 1944 resulted in a drop in mortality rate from 28 to 8 per cent. The figure of 8 per cent has not changed appreciably since that time, and the great majority of the survivors of ileostomy and colectomy have been restored to good health. About one-third of them in the past three or four years also have regained use of the rectum by ileoproctostomy.

Although the over-all figures appear fairly satisfactory, and most of the patients return to active work, one cannot help being impressed by: (1) the radical nature of the surgery needed; (2) the deforming consequences thereof; (3) the psychic trauma thus inflicted on already somewhat unstable personalities; (4) the occasional annoying complications of partial obstruction at the ileostomy, ascending ileitis, and skin erosion by the ileostomy discharge, and (5) finally, the occasional surgical catastrophe which still we cannot escape entirely.

In view of these considerations, a simpler and more fundamental approach to the problem is needed. Various measures have been suggested. Bargen's vaccine has helped in some cases; streptomycin by mouth has appeared to bring marked temporary improvement in a few; sulfathaladine has been disappointing; folic acid, in the hands of Dr. Marcus Keil of the Department of Medicine, has been of little help; and use of tetraethyl ammonium bromide, in the hands of Dr. Russell Wilson of the Department of Medicine, has had an adverse effect in five cases out of seven studied. We were aware of the work of Laurence Martin, but have not as yet employed thiouracil.

Employment of division of the vagus nerves was precipitated by the case of a twenty-year-old girl who previously had all her colon and five-sixths of her ileum removed for severe idiopathic ulcerative colitis and ascending enteritis. Severe recurrent enteritis in the remaining six feet of intestine in October, 1946, demanded some active therapy after all known conservative measures had failed. Vagotomy was suggested by Dr. C. J. Watson, chief of the Department of Medicine at the University of Minnesota. In combination with a revision of the ileostomy, it resulted in the first solid stools she had had in four years, weight gain, and a temporary return of moderately good health. Unfortunately, her condition had become critical during operation, and the chest had to be closed hastily and without performing a complete vagotomy. The improvement was temporary, and, therefore, in September, 1947, several large additional vagus fibers were resected. No definite improvement seemed to follow this second procedure. She remains a problem, with abdominal cramps and some ileostomy difficulties due to the high intestinal secretions.

Employment of vagotomy for cases of idiopathic ulcerative colitis not previously subjected to operation seemed in order. Four such cases, all of very low grade, were subjected to vagotomy in the last three months of 1946. No further divisions were done for six months in order that rather careful evaluation might precede the use of the procedure in any larger group of patients. Symptomatic relief in these four cases and the finding of normal proctoscopic appearances led to the routine application of vagotomy to all available cases of idiopathic ulcerative colitis and regional enteritis, on the supposition that only by fairly wide trial could the method be fairly evaluated.

Transthoracic vagotomy has been employed routinely in fear of aggravation of the disease through handling of the colon by employment of the subdiaphragmatic approach. Recollecting a cancer incidence of some 12 to 13 per cent in patients having had the disease more than five years, we have been careful to exclude this complication by thorough roentgen and proctoscopic studies. In one case, a subdiaphragmatic approach was

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used because other studies had not been convincing.

As of the present time, twenty-three patients in this series have had vagotomy performed. One developed cardiac arrest on the table and recovered only after cardiac massage and conversion to ventricular fibrillation, in turn controlled with procain; she died nine days later, apparently of myocardial infarction. Of the remaining twenty-two, one patient had only a functional diarrhea; three had regional enteritis in addition to ulcerative colitis; four had had previous ileostomy and colectomy and had vagotomies for ascending enteritis or disease in the remaining rectum; two had had pervious colectomy and ileoproctostomy; two had had ileostomy only, and one had had ileostomy and partial enterectomy with simple closure of the ileostomy at the time of the vagotomy.

TABLE I. VAGOTOMY IN IDIOPATHIC ULCERATIVE COLITIS

Type of Surgery	Result				Totals
	Worse	Same	Improved	Asymptomatic	
Vagotomy alone	1	2	5 (a)	4 (bc)	12
Vagotomy plus:					
(1) Previous ileostomy and colectomy	1 (d)	1	2 (e)	...	4
(2) Previous colectomy and ileoproctostomy	...	...	1	1 (c)	2
(3) Previous ileostomy and partial enterostomy, and closure of ileostomy with vagot.	...	...	1	...	1
Totals	2	3	9	5	19

There has been one surgical death; 3 cases are too recent to evaluate. (a) One case of functional diarrhea. (b) Amebae found in one case. (c) One case Crohn's disease plus ulcerative colitis. (d) Increased disease in remaining rectum. (e) Gastroenterostomy required in one case.

As Table I indicates, three patients have been operated upon too recently to allow evaluation. Two of the nineteen patients, followed a month or more, are worse. One of these had a lead-pipe colon resulting from fourteen years of disease; his stools have increased from eighteen a day to twenty-five a day. The other had had his ileostomy and colectomy elsewhere, and had a vagotomy performed in the false hope that an active proctitis might subside.

Fourteen of the nineteen patients have had definite improvement, and five of these fourteen have become entirely asymptomatic.

The most striking case is that of a boy of nineteen with a five-week history of diarrhea and septic fever and a loss of 58 pounds over a longer period. Roentgen study had shown not only diffuse colitis, but also regional enteritis involving the jejunum and the ileum. The stools numbered eight to twelve a day. Following three days of preparation, vagotomy was done. There were two stools in the next four days, and he became afebrile in forty-eight hours and has remained so. He has gained over 30 pounds in the two and one-half months since operation, now has one formed stool a day, and, as the barium enema shows, the colon has improved vastly. Studies on the small bowel have been difficult to do because of slow emptying of the stomach and the virtual impossibility of intubation of the duodenum after vagotomy; but they nevertheless show marked improvement also.

In general, the best clinical results have followed vagotomy in cases of short duration or with mild demonstrable fibrosis. The rationale of vagotomy in this disease is based on the demonstration of Rolf Lium that postganglionic sympathectomy in dogs is followed by lesions suggesting clinical colitis in man, and on the marked relief of gastrointestinal spasm observed by L. R. Dragstedt to follow division of the vagi for duodenal ulcer. Extensive laboratory studies by Wangensteen, Friesen, and Lillehei have failed to demonstrate any abnormality in digestive enzymes in these cases or any changes in enzymes or motor activity of the ileum following division of the vagi in dogs. Prudden and associates have, however, shown changes in lysozyme activity in colitis.

Clinical studies on candidates for vagotomy have been carried out preoperatively, during the patient's postoperative hospital stay, and in half the cases some three or more months later. Fur-

ther studies are in progress. The studies include gastrointestinal stasis x-rays, charcoal transit times through the intestinal tract, barium enema, proctoscopic examination, histamine gastric analysis, Hollander insulin test for gastric secretion, twelve-hour (overnight) gastric suction specimen, electrocardiogram, and a chart record of stools as to amount, character, and content of blood, pus, or mucus, both by gross appearance and by laboratory examination.

Gastrointestinal studies postoperatively have displayed marked slowing in gastric emptying, the stomach rarely being empty of barium in twenty-four hours and usually containing a trace or more at forty-eight to seventy-two hours. Our stasis studies also indicate prolongation of intestinal transit, even when gastric emptying begins immediately.* The same has been true in two patients subjected to study in connection with vagotomy for duodenal ulcer. Roentgen observations on the status of the small bowel as to active disease or changes in the mucosal pattern have not been entirely satisfactory. In three cases with well established regional enteritis (pathological, or proctoscopic demonstration after ileoproctostomy), only one was demonstrated by radiological techniques.

Four patients have improved from a radiological point of view to such a point that the barium enema shows no abnormality. Proctoscopic examinations have shown marked improvement in a majority of patients, in some showing striking improvement within two weeks after operation.**

The triple-histamine gastric analysis has been routine throughout most of this study. In two patients, vagotomy was followed by total loss of free hydrochloric acid response to triple histamine. Most of the others responded to vagotomy with a considerable drop in response to histamine.

By means of the Hollander insulin test for gastric acid secretion, we had postoperative evidence in three cases that section of the vagi was incomplete. One of these was the first case in this series, and she had to have a second vagotomy. The other two patients are symptom free.

Twelve-hour gastric specimens have not been consistent. Nine patients have shown marked reduction in volume. The rest have remained unchanged or have increased slightly, with one exception. In this instance, the patient developed gastric retention, necessitating gastroenterostomy. The hydrochloric acid levels compare in general with the findings of Dragstedt, Grimson, Moore, Walters, and others in their vagotomy series for ulcer of the stomach and duodenum.

Electrocardiograms in most instances have been unchanged by operation. In three instances minor changes occurred; in one a marked tachycardia occurred; and in one, cardiac arrest occurred with the start of manipulation of the mediastinum.

The charcoal transit time has been reguarly prolonged after vagotomy. Eight patients who showed blood, pus, or mucus, or combinations of these findings preoperatively, have stools entirely free of them after vagotomy. The tendency has been toward more formed stools, particularly in the early cases in whom no other surgery had previously been performed.

Conclusion

Vagotomy has been undertaken in twenty-two cases of idiopathic ulcerative colitis and in one case of functional diarrhea. One patient died of cardiac complications without completion of the vagotomy. Two patients are definitely worse, three are unchanged, fourteen have improved, and three have not been operated upon long enough for evaluation. Two of the excellent results occurred in patients also suffering from regional enteritis.

Patients with longstanding disease and those presenting much fibrosis of the bowel wall seem to have done less well than those in the acute phase and those having good bowel elasticity. This is perhaps fortuitous in view of our high cancer incidence in the older patients. We still cannot unerringly discriminate which patients will be unchanged or injured by division of the vagus nerves. It should once again be emphasized that vagotomy should not be employed promiscuously, but only where serious study and evaluation of the method are the aims.

*The authors wish to express their thanks to Dr. L. G. Rigler and the members of his department for their interest and help in the execution of these studies.

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References

1. Berry, R. L.; Campbell, K. N.; Lyons, R. H.; Moe, G. K., and Sutler, M. R.: The use of tetraethylammonium in peripheral vascular disease and causalgic states. Surgery, 20:525, 1946.
2. Dennis, C.: Surgery in relation to chronic, nonspecific, ulcerative colitis. Minnesota Med., 28:228, 1945.
3. Dennis, C.: Ileostomy and colectomy in chronic ulcerative colitis. Surgery, 18:435, 1945.
4. Dragstedt, L. R.: Removal of the vagus innervation of the stomach in gastroduodenal ulcer. Surgery, 17:742, 1945.

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GASTRIC NEURECTOMY (VAGOTOMY) IN THE TREATMENT OF DUODENAL ULCER

Anatomic Considerations

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AN ANATOMIC investigation of the course and distribution of the right and left gastric nerves has recently been completed. According to Cunningham,[1] "the two vagus nerves, after forming the posterior pulmonary plexuses, descend to the esophagus, where they form with each other and with branches of the sympathetic, the esophageal plexus. From this plexus, two nerves pass downward, one on the front and one on the back of the esophagus, through the opening in the diaphragm. Each of these nerves contains fibers from both vagi, and they are termed the *anterior and posterior gastric nerves.*" Hereafter in this paper, the term "right gastric nerve" will replace the term "posterior gastric nerve" and the term "left gastric nerve" will replace the term "anterior gastric nerve." This is done because, in our observations, the right nerve was not always posterior and the left nerve was not always anterior in position.

The results presented herein are based on 100 dissections made at necropsy. The results of eleven additional dissections made on the bodies of children were not included. Although the course and distribution of the gastric nerves in these eleven instances did not differ from that found in the bodies of adults, the results were not included in the statistical analysis because of the uncertainty, at the beginning of the dissections, of the accuracy of observations made on small nerve trunks. These 100 dissections were made on the bodies of fifty-six men and forty-four women whose ages had ranged from twenty-four to eighty-four years.

Generally speaking, it was observed that the gastric nerves arose from the esophageal plexus at about the level of the bifurcation of the trachea. The right and left gastric nerves coursed caudad and, generally speaking, ultimately terminated on the stomach. There were, however, certain qualitative variations that permitted classification of the dissections into four groups.

From the surgical service and under the direction of Dr. Waltman Walters with assistance from Drs. J. T. Small and J. W. Wilson. Dr. Bradley is a Fellow in Medicine at the Mayo Foundation, Rochester, Minnesota.
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In 92 per cent of the 100 dissections, the gastric nerves took origin from the esophageal plexus on the anterior wall of the esophagus behind the bifurcation of the trachea and behind the main bronchi. As the gastric nerves coursed caudad, many intercommunicating branches between the right and left trunks were observed. Furthermore, small fibers that coursed anteriorly and inferiorly over the vertebral column and the aorta were added to the gastric nerves. Sometimes intercommunicating branches were seen to enter the musculature of the esophagus and either lose their identity or emerge onto the anterior surface of the esophagus at some more caudal position. By the time the nerve trunks and branches had reached the esophageal hiatus, a relatively large trunk had been formed. These trunks passed through the esophageal hiatus into the abdomen.

The ninety-two dissections just referred to constituted three of the four groups. The first group (64 per cent of the 100 dissections) was characterized by the fact that all of the branches between the gastric nerves and from more remote sites joined to form common trunks on the right and left sides of the esophagus somewhere between the superior aspect of the diaphragm at the esophageal hiatus and 6 cm. above the diaphragm.

In the second group of dissections (7 per cent) there were so many intercommunications between the main trunks of the gastric nerves that a plexus was formed on a major portion of the anterior surface of the esophagus.

The third group of dissections (21 per cent) was characterized by the fact that the long discrete trunks had neither additions of fibers nor intercommunications below a point 6 cm. above the diaphragm.

In the fourth group of dissections (8 per cent) any consistent or uniform course or pattern was not found. In some instances, well-formed trunks were evident from which, somewhere near the diaphragm, a well-defined branch left a main trunk, coursed laterally in the thorax and became lost before leaving the thorax. Another variation was that of a failure of the numerous branches of

the esophageal plexus to form into a common trunk on one or both sides. Under such circumstances, the multiple small fibers followed their course along the esophagus, some going through the esophageal hiatus, some going laterally in the thorax, so that the distribution of every fiber of the right and left gastric nerves could not be determined with certainty. Hence, in this group were found the nerves with a course and distribution which might cause difficulty for the surgeon who attempted to section the gastric nerves.

The relative position of the right and left trunks of the gastric nerves about the esophagus at the point at which they passed through the esophageal hiatus was determined.

Below the esophageal hiatus the course was remarkably constant. The right gastric nerves, the larger in 54 per cent of the dissections in this study, coursed posteriorly and to the left. About 3 to 5 cm. below the esophageal hiatus the right nerve divided to send numerous small branches to the musculature of the stomach—at least they lost their identity in the wall of the stomach. One or more branches followed along the lesser curvature of the stomach; however, the larger single branch followed along the left gastric artery. Routine dissections were not made beyond the division of the right gastric nerve into its branches, since further consideration of the course and distribution was not within the scope of this study.

The left gastic nerve, on the other hand, had a short course in the abdomen. As it came to lie on the anterior surface of the stomach, it almost immediately divided into numerous small branches which lost their identity in the serosa and musculature of the stomach.

Occasionally, a small intercommunicating branch between the right and left gastric nerves below the diaphragm was seen.

In 92 per cent of the dissections in this study distinct right and left gastric nerves could be identified at the esophageal hiatus. In 8 per cent of the dissections the arrangement of one or both gastric nerves was abnormal and irregular. Identification of such nerves, in the performance of gastic neurectomy, would require the thoracic approach.

Reference

1. Cunningham, D. J.: Textbook of Anatomy. Ed. 8, p. 512. New York; Oxford University Press, 1943.

Discussion

DR. JOHN H. GRINDLAY, Rochester, Minn.: Ever since Pavlov's work on the nervous phase of gastric secretion (at that time, fifty years ago, he did not know there was a chemical phase), the gastric nerves have lured surgeons. The recent and broadspread interest in the vagus nerves is merely a revival of interest, and, as has usually been the case, the impetus for this revival has been given by a surgeon, Dr. Lester Dragstedt.

One difficulty has been, and is, even today, that there is no evidence to show that the immediate and sought-for effect of section of the vagi is permanent. Vanzant once showed that the value for free acid in the stomach in dogs might return to about its former level in six months or more after section of the vagi had been performed. In other words, although no free acid was found in the stomachs of her dogs during the first few months after section of the vagus nerves, she found that the ability to secrete free acid might eventually be restored.

Another difficulty is that it is not known what undesirable effects the procedure may have. There is evidence, both clinical and experimental, that troublesome functional disturbances may develop later.

It is true that Dragstedt's first vagotomy was done three and a half years ago, that Moore and Chapman did their first operation two years ago and that in most of the cases reported by these surgeons so far the patient has been benefited. Yet, because of experimental evidence that any change may be only temporary and because long experience with peptic ulcer makes one reserve judgment in respect to any operation until it has been performed in a large series of cases over a period of many years, surgeons in most medical centers, including the Mayo Clinic, are performing gastric neurectomy only in selected cases of peptic ulcer. It is believed that the final report on this operation is not due for some years and that all reports made now and for some years to come should be considered interim reports.

Patients selected for this operation at the clinic are of two general types. The first type of patient is one in whom a new ulcer has developed and who has not had relief of pain from ulcer after an adequate gastric resection. It seems justifiable to offer these patients the comparatively simple operation of gastric neurectomy on the chance that they might obtain relief.

The second group of patients consists of those with chronic, nonobstructing duodenal ulcer, in whom the nervous factor seems to overshadow other factors and for whom surgeons at the clinic believe the operation occasionally may be justified. Some of these patients are young, they have high gastric acidity with active ulcers which respond unsatisfactorily to medical treatment and they conform in a behavior pattern that suggests a prolonged and excessive nervous phase of gastric secretion.

Dr. Bradley and his colleagues have done an excellent and long-needed piece of research. There can be no dispute about their anatomic findings, as there is about clinical and experimental work in this field. If an absolutely complete division of the vagus nerves to

the stomach is necessary to effect a cure of ulcer, their work will be a great help to the surgeon. Until we have had more experience the emphasis should be, certainly, on the completeness of the operation. In the light of this work it will also be appreciated, that when, for some reason, the infradiaphragmatic approach is used, there is an approximately 8 per cent chance that the operation will be incomplete. How important this observation will be eventually, we do not, of course, know.

I should like to take a few more minutes to discuss some of the recent experimental work on this problem. Baranofsky, Friesen and their co-workers, in Wangensteen's laboratory, have reported recently that section of the vagi failed to protect animals from peptic ulcer produced by chronic histamine stimulation. Bollman and I have work in progress in which we are trying to find out whether section of the vagus nerves protects dogs from ulcer produced by the Mann-Williamson operation.* Some years ago Beaver and Mann reported that in one of their small group of three dogs whose vagi had been cut, an ulcer failed to develop after the Mann-Williamson operation. It is this one dog which has been the cause of recent dispute. I am sorry our new experiments are not yet complete.

Bollman and I have just completed a study of the effect of section of the vagi on peptic ulcer produced in dogs by cinchophen. Our dogs were given 2 gm. of cinchophen daily for six days of the week. Peptic ulcers developed about two weeks after this regimen had been started. Most of the dogs died from hemorrhage or perforation. Eleven dogs were used as controls; that is, their vagi were left intact. The vagi were cut in four dogs after an ulcer had developed. Twelve dogs had had their vagi cut at times which varied from three weeks to seven and a half months before the cinchophen regimen was started. Briefly, we found that section of the vagi did not cause the ulcer to heal in the four dogs which already had an ulcer, nor did it prevent the occurrence of an ulcer in dogs whose vagi had previously been cut. I should say at this point that we did almost as radical an operation as that of Moore and Chapman. We excised those portions of the vagi, including their esophageal branches, which extend from a point just below the roots of the lungs to the diaphragm. We were able to verify the completeness of the operation at necropsy.

Perhaps we should expect negative results from such a study. Cinchophen produces an ulcer probably because it stimulates gastric secretion directly, rather than because it stimulates the vagi. It is true also that peptic ulcer as it occurs in man is not a disease of dogs and peptic ulcer which is caused by cinchophen is not a disease with which we are concerned in man.

Nevertheless, one result of the study deserves mention. The dogs in which the vagi had been cut before they were started on the cinchophen regimen lived considerably longer than did the control dogs. The former lived almost twice as long as the latter, they lost less weight, even over the longer survival period, and their ulcers at death looked to be more chronic. The only explanation we can give is that the dogs in which vagotomy had been performed were not affected by the symptoms of ulcer and, consequently, ate better than did the controls, they lost less weight and they were in better condition to survive hemorrhage or a small, early perforation. I think this is of interest because it has been widely reported that patients who, before operation, have had continuous and intractable pain after operation awake from anesthesia completely relieved of pain.

In reference to the paper by Dr. Bradley, I should like to speculate as to whether an absolutely complete section of the vagi and all their visible branches is of importance. Certainly, results have yet to be proved to be related to the completeness of the operation. Perhaps it is necessary to interrupt only the main nerve or certain fibers in the main nerve. In our study of cinchophen-induced ulcer, two dogs which were among those with the longest survival periods were proved at necropsy to have an intact branch of one vagus nerve. One of these dogs gained weight, although he had a large ulcer which had perforated and then had become sealed off; he did not die but was killed after he had been receiving cinchophen for almost four months, which was more than twice as long as any of the control dogs had received the drug.

*The results of this study were inconclusive.

CO-OPERATION BETWEEN THE PHYSICIAN AND THE CANCER SOCIETY

(Continued from Page 252)

for treatment, and the development of new and improved techniques.

It is very likely that further progress will be achieved by advances in medical and surgical treatment and through discoveries in scientific research, provided such research is supported in the future. But even in the present state of knowledge and medical practice, many thousands of lives could be saved annually through earlier diagnosis and treatment. Cancer control is a major challenge not only to the medical profession but to the lay public as well. The final solution, if one is to be found, will be obtained only by co-operative and co-ordinated teamwork between lay leaders, as represented by the American Cancer Society, and leaders in medicine and the allied sciences—all of them working together against one of the most stubborn diseases of mankind.

RECENT ADVANCES IN THE TREATMENT OF CARDIOVASCULAR DISEASES

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IN this discussion of recent advances in the treatment of cardiovascular diseases, I will present four different phases of the field which seem to me to be worthy of special emphasis. I will not describe one of the most important advancements, the surgical treatment of congenital cardiovascular defects, because that is a special topic in itself.

First, I wish to discuss the use of penicillin in the treatment of subacute bacterial endocarditis. This disease, as is well known, formerly had a mortality rate of practically 100 per cent.[15] With the advent of the sulfonamides, used in conjunction with heparin or fever therapy, a few cures occurred. Penicillin has completely changed the prognosis in this disease. Penicillin will sterilize the blood stream and heart valves in the great majority of cases, and the small percentage of patients who die do so not because of the septicemia, as formerly, but because of congestive failure, embolic phenomena, or uremia.[2]

The important questions in treating these patients are: how much penicillin should be given per day, and for what length of time? I think we do not have the final answer to these questions. As experience has been gained, the tendency has been to raise the daily dose and give it over a longer time. A daily dose of one-half million units, given for a period of at least twenty-eight days,[2,16] would be regarded now as adequate treatment, provided the organism causing the infection was not highly resistant to penicillin.

It should be emphasized that relapses may occur, and if they do, hope should not be abandoned because such patients will usually respond to larger doses given over a longer period.[3] Relapses, when they occur, almost always do so within thirty days after cessation of treatment.

The proper route of administration of the penicillin is the subject of much controversy. Intramuscular injection every three hours is the simplest method and has given very satisfactory results.[1,2,16] There is no advantage in giving anticoagulants with the penicillin.[3,12]

Next, I wish to discuss the use of the anticoagulants, heparin and dicumarol, in the treatment of acute coronary thrombosis. Parker and Barker[10] have recently published the results of treating fifty such patients with anticoagulants. Only two members of this group developed vascular complications. This is only 4 per cent, which is in contrast to the 37 per cent with vascular complications reported by Nay and Barnes[8] in 1945 in a series of 100 cases of coronary thrombosis not treated by anticoagulants. Three previous authors[9,11,18] have also reported favorable results in the treatment of coronary thrombosis by anticoagulants. The American Heart Association is establishing a program to evaluate this therapy further by means of well-controlled studies in larger centers.

There are definite contraindications to the use of heparin and dicumarol. They should not be used unless a reliable laboratory is available for determining daily prothrombin times. They should not be used in the presence of an ulcer or a bleeding lesion, or in the presence of hepatic or renal insufficiency.

Heparin may be used for the first forty-eight hours until the dicumarol has had time to lower the prothrombin time. Then the patient is maintained on dicumarol. With dicumarol, the prothrombin time should be kept between 10 and 30 per cent of normal. It is well to continue the dicumarol for at least three weeks, as the great majority of vascular complications will occur in this interval. It should be remembered that if the prothrombin time drops too low, or if bleeding occurs, the action of the dicumarol may be counteracted by administering intravenously 60 mg. of vitamin K in the form of menadione bi-sulfite.

Next, I wish to discuss the use of digitoxin, a purified digitalis glycoside, in the treatment of congestive heart failure. While this is not a new product, I think the ease and minimal toxic effects with which a patient can be digitalized are not universally appreciated and are deserving of comment. Harry Gold and his co-workers[4,5] are chiefly responsible for demonstrating the usefulness of this drug.

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Digitoxin is almost 100 per cent absorbed from the gastrointestinal tract; therefore, the oral digitalizing dose is the same as the intravenous digitalizing dose, and there is no advantage in giving it intravenously. Digitalization is accomplished in the average patient by giving 1.2 mg. of digitoxin orally in one dose. The full effect takes place in four to ten hours. The maintenance dose is .1 to .2 mg. daily. The toxic effects of the single dose are minimal, only one patient in fifty being affected by nausea as a result of local action in the stomach, and only one in fifty affected by nausea as a result of systemic action. An occasional patient may not be fully digitalized by the single dose of 1.2 mg. In this case full digitalization can be accomplished by giving an additional .2 or .4 mg. of the drug.

It should be emphasized that the digitalizing dose should not be given if the patient has received digitalis of any kind in the previous two or three weeks.

Finally, I wish to consider briefly a method of therapy that is not new, but the significance of which has only recently come to be appreciated. I am referring to the treatment of edema by the strict reduction of sodium intake. Schroeder[14] in 1941 and Schemm[13] in 1942 were the first in recent times to advocate marked restriction of sodium intake. Wheeler, Bridges and Paul White[17] have recently confirmed the value of this restriction of sodium and have shown that, in congestive heart failure, fluids may be given *ad lib.* if the intake of sodium is markedly restricted. In the diet of White and his co-workers, the intake of sodium in hospitalized patients was reduced to 1.5 gm. of sodium chloride daily. In their ambulatory patients the regimen was less rigid, and emphasis was placed on eliminating salt from the table and from the cooking, and on using salt-free bread and butter. The reduction of the sodium ion is the important factor, chlorides having no effect on edema formation. Thus no sodium bicarbonate may be given and no medicines containing sodium may be used. White treated thirty-five patients by the low sodium regimen. All of these showed cardiac decompensation uncontrolled by ordinary methods. Of these thirty-five, ten showed great improvement, twelve showed some improvement and thirteen showed no improvement at all. Schemm thinks that, in addition to restricting the intake of sodium, it is important to have the diet acid-ash in type. He thinks fluids should not only be given *ad lib.*, but should actually be forced. The value of forcing fluids in all these patients has not been generally accepted, but the value of the low sodium regimen in uncontrollable decompensation is gradually being recognized.

As well as playing a part in the production of edema, there is evidence that sodium plays some role as yet not understood in the production of essential hypertension. Grollman[6] has obtained improvement in five out of six hypertension patients on a rigidly reduced sodium intake diet, and Kempner[7] reports improvement in 62 per cent of hypertensives with his rice, fruit, sugar diet which is very low in sodium. Further investigation of this form of treatment of essential hypertension is needed.

References

1. Bloomfield, A. L., and Halpern, R. M.: The penicillin treatment of subacute bacterial endocarditis; some problems. J.A.M.A., 129:1135, (Dec. 22) 1945.
2. Cristie, R. V.: Penicillin in subacute bacterial endocarditis: Report to the Medical Research Council of 147 patients treated in fourteen centers appointed by the Penicillin Clinical Trials Committee. Brit. M. J., 1:381, (March) 1946.
3. Dawson, M. H., and Hunter, T. H.: The treatment of subacute bacterial endocarditis with penicillin. Ann. Int. Med., 24:170, (Feb.) 1946.
4. Gold, H.: Pharmacologic basis of cardiac therapy. J.A.M.A., 132:547, (Nov. 9) 1946.
5. Gold, H.; Kwit, N. T.; Cattell, McK., and Travell, J.: Studies on purified digitalis glycosides. J.A.M.A., 119:928, (July 18) 1942.
6. Grollman, A.; Harrison, T. R.; Mason, M. F.; Baxter, J.; Crampton, J., and Reichsman, F.: Sodium restriction in the diet for hypertension. J.A.M.A., 129:533, (Oct. 20) 1945.
7. Kempner, W.: Some effects of the rice diet treatment of kidney disease and hypertension. Bull. New York Acad. Med., 22:358, (July) 1946.
8. Nay, R. M., and Barnes, A. R.: Incidence of embolic or thrombotic processes during the immediate convalescence from myocardial infarction. Am. Heart J., 30:65, (July) 1945.
9. Nichol, E. S., and Page, S. W., Jr.: Dicumarol therapy in acute coronary thrombosis. J. Florida M. A., 32:365, (Jan.) 1946.
10. Parker, R. L., and Barker, N. W.: The use of anticoagulants in the management of acute myocardial infarction: A preliminary report. Proc. Staff Meet., Mayo Clin., 22:185, (May 14) 1947.
11. Peters, H. R., Guyther, J. R., and Brambel, C. E.: Dicumarol in acute coronary thrombosis: J.A.M.A., 130:398, (Feb. 16) 1946.
12. Priest, W. S.; Smith, J. M., and McGee, C. J.: Penicillin therapy of subacute bacterial endocarditis. Arch. Int. Med., 79:333, (March) 1947.
13. Schemm, F. R.: High fluid intake in management of edema, especially cardiac edema. I. Details and basis of regime. Ann. Int. Med., 17:952, (Dec.) 1942.
14. Schroeder, H. A.: Studies on congestive heart failure. I. Importance of restriction of salt as compared to water. Am. Heart J., 22:141, (Aug.) 1941.
15. Seabury, J. H.: Subacute bacterial endocarditis; experiences during the past decade. Arch. Int. Med., 79:1, (Jan.) 1947.
16. Ward, G. E. S.; Meanock, R. L.; Selbie, F. R., and Simon, R. D.: Treatment of subacute bacterial endocarditis by penicillin. Preliminary report on eighteen cases. Brit. M. J., 1:383, (Mar. 16) 1946.
17. Wheeler, E. O.; Bridges, W. C., and White, P. D.: Diet low in salt (sodium) in congestive heart failure. J.A.M.A., 133:16, (Jan. 4) 1947.
18. Wright, I. S.: Experiences with dicumarol, 3, 3 methylenebis (4-hydroxycoumarin) in the treatment of coronary thrombosis with myocardial infarction. Am. Heart J., 32:20, (July) 1946.

THE RECOGNITION OF SOME CARDIAC EMERGENCIES AND THEIR TREATMENT

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THE recognition of cardiac emergencies, their diagnosis and their management are important considerations in medical practice.

When one first sees a patient who is thought to have had a heart attack, one must determine with accuracy and rapidity whether it is cardiac or noncardiac, such as a benign fainting spell, acute pulmonary edema, acute alcoholism, et cetera.

Acute congestive heart failure is one of the most commonly seen conditions demanding emergency treatment.[12]

Left Ventricular Failure

Acute failure of the left ventricle is observed in patients with hypertensive arteriosclerotic heart disease, frequently following cardiac infarction, in the presence of aortic valvular lesions, notably syphilitic in origin.[5] It is also seen in cases of mitral stenosis and sinus rhythm, and may at times develop after exercise or excitement.

The usual symptoms are paroxysmal dyspnea, often occurring at night, usually without cyanosis but with marked pallor; crepitant râles, particularly at the bases of the lungs; profuse perspiration; marked accentuation of pulmonic second sound; and occasionally gallop rhythm. In severe cases frank pulmonary edema develops.

The differentiation between cardiac and bronchial asthma is of great importance in regard to treatment.[5] Morphine, which is used in cardiac asthma, is definitely contraindicated in bronchial asthma.

Once the diagnosis of left ventricular failure is established, one should administer morphine at once in doses from ¼ to ½ gr. Oxygen should be given as soon as possible. If acute pulmonary edema is present, it is well to do a venesection, removing 500 c.c. of blood. Compression of all four extremities with a tourniquet to withhold the venous blood from the right side of the heart is also valuable. Hoskin[8] states that he has used intravenous strophanthin, gr. 1/100, to steady the heart rate, with some success. Digitalis should be given to aid in the acute attack and to help prevent further attacks. The usual warning about digitalis must be given, however: it must be determined whether the patient has been taking digitalis and, if so, in what dosage. It is naturally imperative that the physician be familiar with the uses and abuses of digitalis and the newer digitalis preparations, if he is to treat cardiac patients intelligently. Mercurial diuretics may also be useful.

Right Ventricular Failure

Right ventricular failure is usually found associated with a long-standing circulatory embarrassment, and occurs as a result of some condition that puts an excess strain on the heart. The chief causes are mitral stenosis and chronic pulmonary diseases. At times, acute right ventricular failure may come on suddenly with the usual signs and symptoms of dyspnea, marked fatigue, nausea and vomiting, cyanosis, dilatation of the right border of the heart, venous engorgement, with corresponding increase in venous blood pressure, enlargement and tenderness of the liver, edema of the extremities, and ascites; hydrothorax may be present, as well as anasarca. The pulse is usually rapid and laboring.

Emergency treatment consists of giving morphine at once; and as in all cases where morphine is given, if the patient is sensitive to this drug, one should give pantopon, dilaudid, or demerol. Oxygen should be started as soon as convenient. Strict bed rest should be maintained. Salyrgan or one of the other mercurial diuretics should be given as soon as possible and followed by subsequent doses every second day until the edema is fairly well controlled. Ammonium chloride in doses of 1.5 gm. is of value if given in large enough doses of from 4 to 6 gm. daily. In some cases it is well to give 50 to 100 c.c. of 50 per cent dextrose solution by slow intravenous injection to replenish the lost glycogen of the cardiac muscle. One must also restrict fluid to 1,500 c.c. daily. As in left ventricular failure, the patient should be started on digitalis.

The differential diagnosis between left and right ventricular failure briefly is as follows:

From the Fergus Falls Clinic.

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Left Ventricular Failure.

1. Early congestion of the pulmonary tree.
2. Marked accentuation of pulmonic second sound.
3. Pallor, cough.
4. Fall in systolic blood pressure.
5. Usually absence of cyanosis.
6. Frequently follows:
   (a) Hypertensive arteriosclerotic heart disease.
   (b) Myocardial infarction.
   (c) Aortic valve lesions.
   (d) Syphilitic aortic regurgitation.

Right Ventricular Failure:

1. Congestion of pulmonary tree later.
2. Early ascites and periphereal edema.
3. Elevation of venous blood pressure.
4. Venous engorgement, especially noticeable around great veins of neck.
5. Enlargement and engorgement of the liver.
6. Cyanosis.
7. Frequently follows:
   (a) Mitral stenosis.
   (b) Chronic pulmonary disease.

Acute Coronary Occlusion

Coronary occlusion is probably diagnosed more often than it occurs. However, when it does occur, it is a definite cardiac emergency and demands heroic, prompt, and correct treatment.

We are all familiar with the symptoms of coronary occlusion. The pain is usually sternal or epigastric in location, may radiate down the arms and rarely to the back. White[17] states that, "There may be slight transmission of pain to the back and shoulders, but rarely is the pain prominent in the back, as it may be with a dissecting aneurysm." Other signs are lowering of the blood pressure, dyspnea, the characteristic gray pallor of the face, the patient showing signs of shock, as evidenced by sweating, coldness or clamminess of the skin, and rapid thready pulse. Leukocytosis, acceleration of the sedimentation rate, and friction rub are later signs.

On even a tentative diagnosis of coronary occlusion, the patient should be put to bed. A useful rule is: "If the patient presents the textbook picture, the diagnosis is easy. If in doubt, be cautious and prove the absence of occlusion before allowing the patient to be up and about."[11]

The pain may be relieved by morphine, pantopon or dilaudid. If morphine is given, it should be given in sufficient doses to relieve the pain, i.e., from gr. ¼ to ½, and may be given in dosages of ¼ gr. intravenously, repeated, in fifteen minutes if necessary. The intravenous method is preferable in a shocked patient because of the slow absorption by the subcutaneous route, and also because of the possibility of cumulative effects from several subcutaneous injections.[18] One must not, however, give opiates sufficiently to depress the respirations below 12 per minute.

Recently other drugs have been used with marked success for the relief of pain, such as demerol[7] and papaverine. In our experience, demerol has not proven as efficient as the opiates. Papaverine is a powerful local dilator of the vessels in spasm. Papaverine may be given either intramuscularly or intravenously in doses of 0.03 to 0.1 gm. If given intravenously, it may be diluted with 50 c.c. of glucose solution and given slowly; and one may give it every three to four hours, depending upon the character of the pain. Atropine in doses of gr. 1/50 to 1/75, given with the first dose of morphine, is helpful in relieving the cardiac irritability.

Herman states that in severe cases it might be necessary to anesthetize the patient by the intravenous injection of barbiturates such as sodium amytal, 0.06 gm. (1 grain) or in larger doses by mouth in very extreme cases.

Oxygen has been found very useful in the alleviation of the pain of coronary occlusion[2,7,12] and is best given through the BLB mask,[9] as the oxygen tent is at times difficult to operate and may make the patient more apprehensive. I do not like the nasal catheter method, as this is also irritating to the patient and causes an undue irritation of the mucous membranes of the nasopharynx. Alcohol is beneficial when the patient is in collapse with the blood pressure low.[9] It has a tendency to promote vasodilatation and to aid digestion. Caffeine sodium benzoate,[12,13,16] coramine, or metrazol intravenously is indicated if circulatory collapse is present.[13]

If dehydration is present, one should give 50 to 100 c.c. of 50 per cent glucose slowly intravenously,[11,12] to increase the blood sugar and also to build up the glycogen reserve.[6]

Dicumarol has been suggested by Wood[18] to prevent intraventricular clot with subsequent embolus formation. However, he further states that enough is not known about the drug to make it routine. Kossove[10] stated that it should be used routinely, and Sherman[16] pointed out that the infrequency of premonitory signs precludes the use of anticoagulants in the prophylaxis of coronary arterial thrombosis. When giving anticoagulant

drugs, a prothrombin time should be done at least every other day, and preferably every day, and the time should be kept below thirty seconds.

The diet should not exceed 1,200 calories and should be bland.

Enemas and cathartics are best not given for the first four days after an acute occlusion, and then it is advisable to administer a glycerine suppository or a small enema. At times, some of these patients have extreme difficulty in using a bed pan, and then it may be for the best advantage to the patient to use a commode[9] with the patient assisted by two nurses or attendants. For abdominal distention, I have found turpentine stupes very efficacious.

Geiger[7] recommends the use of theophylline diethylenediamine in doses of 0.1 to 0.3 gm. three times daily, or in doses of 0.5 gm. in 200 c.c. of physiological salt solution intravenously, given slowly over a one-hour period to relieve pain and improve circulation. Day[4] recommends the use of aminophyllin, 0.25 gm., early in the occlusion. I have used 0.5 gm. in 250 c.c. of 20 per cent glucose solution once to three times daily, given at the rate of 40 drops per minute intravenously, with the view of relieving pain, improving the circulation, building up the glycogen of the cardiac muscle, and somewhat preventing dehydration.

Quinidine is not part of the emergency treatment, but it is well to give it following the emergency period to prevent some of the arrythmias, such as ventricular tachycardia and auricular fibrillation, frequently seen in acute coronary occlusion.

Digitalis should be used in cases where congestive failure exists[14] together with the acute occlusion, but is contraindicated where congestive failure or auricular fibrillation does not exist.[3] It is a safe practice slowly to digitalize patients with acute coronary occlusion, with co-existing congestive heart failure or auricular fibrillation, and at the same time to give small doses of quinidine (3 grains twice to thrice daily). It has been proven in cases of auricular fibrillation complicating acute coronary occlusion, that digitalis should not be given alone but in conjunction with quinidine.[1]

One word of caution should be given about the overenthusiastic use of the cardiogram in acute coronary occlusion. It is my practice not to take an electrocardiogram for the first twenty-four to forty-eight hours, where the diagnosis is established without doubt, for, as Reinfenstein[15] has said, "A patient recovering from coronary thrombosis without an electrocardiogram is better than a dead one with an electrocardiogram."

The subsequent treatment of occlusion of the coronary arteries does not come under acute cardiac emergencies.

Pericardial Effusion

Fluid may accumulate in the pericardial sac either as an inflammatory exudate, as a complication of rheumatic fever, tuberculosis, septic infection of the pericardium (as in pneumonia), or malignancy of the pericardium, or as a transudate as seen in congestive heart failure, renal disease and other disorders showing generalized anasarca. If the fluid accumulates slowly, 500 to 1,000 c.c. may be formed without causing symptoms, but if it forms rapidly, much less fluid may seriously hamper cardiac function.

There are relatively few symptoms and signs in the early stages of pericardial effusion or hydropericardium. As fluid accumulates, however, the patient shows marked dyspnea, cyanosis, distension of the veins in the neck, liver engorgement with pain in the abdomen, fall of blood pressure, and increase in respiratory rate; and pulsus paradoxus might ensue.

When this occurs, it is essential that the patient is given relief, by giving opiates or other pain-alleviating drugs, and by doing a paracentesis, as Marvin states, for two reasons: "To remove fluid (1) because of its quantity or the rapidity of its formation is hampering the heart's action and interfering with the venous return to the auricles, and (2) for the purpose of diagnosis, especially when pus is thought to be present." In cases of rheumatic infection, one usually does not resort to paracentesis of the pericardial sac, because the effusion seldom becomes very large and a spontaneous regression usually occurs.

If the effusion present is purulent, one can insert penicillin solution into the pericardial sac.

Conclusion

There remains a great deal more to be said about cardiac emergencies, as, for example, the arrythmias, but time does not permit. There are but two factors that I should like to emphasize further.

1. Every physician who attempts to diagnose

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TREATMENT OF CONGESTIVE HEART FAILURE

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WE may divide the treatment of congestive heart failure into three parts without regard for the etiology: treatment of early left, acute left, and chronic right heart failure.

A patient with symptoms of early or mild left heart failure comes to his physician complaining of dyspnea on exertion, orthopnea, and attacks of nocturnal dyspnea. Although generalities in treatment of heart failure are always dangerous, each patient being very much of an individual problem, nevertheless the majority of these patients may be treated on an ambulatory basis without the strict bed rest formerly prescribed. In fact, many may continue at sedentary employment without loss of work if rest periods can be provided. In these cases, therapy consists of full digitalization followed by a maintenance dose sufficient to maintain full digitalization. This procedure is also required in the treatment of the other types of heart failure to be described later. In other words, heart failure is an indication for digitalization, irrespective of etiology and whether auricular fibrillation or regular sinus rhythm is present. Since the patient with early left heart failure does not have to be treated as a cardiac emergency, oral digitalization is the method of choice, and the whole leaf tablet of digitalis folia is still generally satisfactory. The total digitalizing dose may be easily calculated on the basis of one cat unit per ten pounds of body weight, one quarter of this dose being given every eight hours. Undue sensitivity will be noted by careful observation during this period; or if this is impossible, several days may be taken for digitalization, adding one cat unit extra for each day. Thereafter, one cat unit will serve as the average daily maintenance dose, although some patients require as little as one quarter of one cat unit daily and others as much as three. Because of variations in potency of different brands of digitalis folia, one should choose a single reliable brand and learn its potency by clinical trial.

The newer crystalline glucosides of *Digitalis purpurea* and *lanata* are being used more generally, their advantages being greater uniformity, more rapid absorption, and less toxicity. Many cardiologists still prefer the whole leaf tablets when rapid digitalization is not necessary, or for maintenance dosage. Several different brands of digitoxin are now available in 0.1 and 0.2 milligram tablets. The total digitalizing dose lies between 1.2 and 1.6 milligrams, and this may be given at once if rapid digitalization is desired. Maintenance dosage varies usually between 0.1 milligrams and 0.2 milligrams per day. Lanatoside C, a pure glycoside obtained from *Digitalis lanata,* is available under the trade name of Cedilanid, supplied in tablets for oral administration of 0.5 milligrams each and in 2 c.c. and 4 c.c. ampules of 0.4 milligrams and 0.8 milligrams for intravenous use. Ten to twelve tablets orally or 8 c.c. intravenously, are average total digitalizing doses; one or two tablets daily are the usual maintenance requirements.

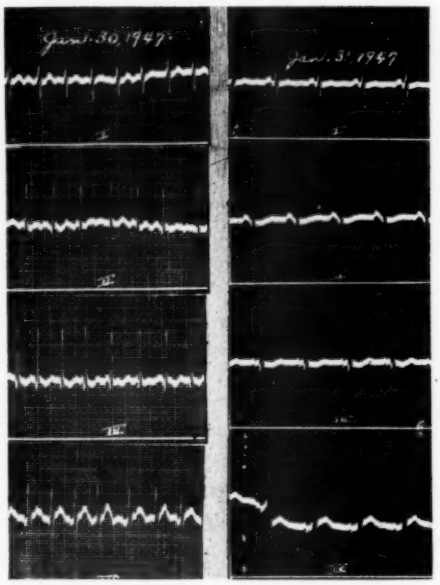

Fig. 1.—*Case 1.* Electrocardiograms on first and second day of hospitalization showing auricular fibrillation and right axis shift on January 30, and return to normal sinus rhythm on January 31. Some digitalis effect is evident.

It is well to re-evaluate the patient's degree of digitalization every six months by adding an extra tablet daily until symptoms of toxicity ap-

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pear, or by discontinuing the drug for two or three weeks and redigitalizing fully at the end of this period.

Strict limitation of fluids or salt will probably not be necessary in a case of early left heart failure, but the patient should be warned that excessive consumption of liquids of any kind may precipitate symptoms of failure.

Case Report

Case 1.—L. S., a forty-year-old insurance salesman whose mitral stenosis was discovered accidentally in 1941, had been well until the onset of mild exertional dyspnea in December, 1946. In the early morning of January 30, 1947, he presented the picture of acute left heart failure, with marked dyspnea, orthopnea, rapid and irregular ventricular rate of 180 to 210, and cyanosis of the lips and fingernails. He coughed continuously, raising blood-tinged frothy sputum and occasional clots of blood. Besides the congestive râles heard bilaterally, a pleural friction rub was heard in the left axilla. The rectal temperature was 101.5° F.

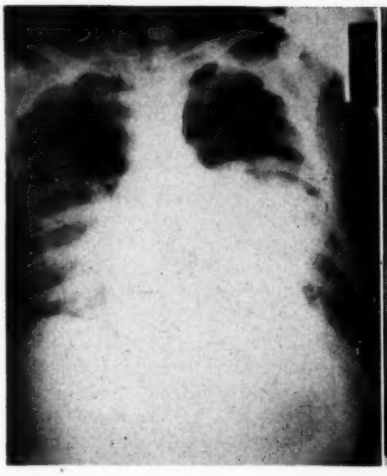

Fig. 2.—*Case 1.* Bedside chest film shortly after admission showing mitral configuration of the heart, pulmonary congestion, and consolidation in left lower lobe due to pulmonary infarction.

Fig. 3.—*Case 2.* Six-foot plate in January, 1945, showing marked cardiac enlargement and infiltration at right base probably due to fluid and old areas of pulmonary infarction.

Should nocturnal dyspnea persist after digitalization, diuretics, particularly the mercurial diuretics, may be given. A weekly injection of 1 or 2 c.c. of salyrgan, salyrgan-theophyllin, or mercupurin will often suffice. Some of these compounds are now available in tablet form for oral administration, and work quite efficiently with few toxic manifestations. Three to six tablets, daily, one or two days per week often work as efficiently as daily administration. The effect of mercurial diuretics may be enhanced by giving 4 grams of ammonium chloride or nitrate on the day before and the day after injection. Whether these salts increase the efficacy of the orally administered mercurial diuretics remains unproven.

Finally, suppositories of aminophyllin may be used at night to control nocturnal dyspnea.

Acute left heart failure may be a real medical emergency, taxing the skill of the physician and requiring prompt treatment. The following case exemplifies the problems involved:

Here, then, was acute left heart failure with rapid auricular fibrillation and pulmonary embolism. Morphine sulfate, gr. 1/6, was given intravenously and the patient was hospitalized and given 100 per cent oxygen by mask. Digitalization was accomplished by the administration of 8 c.c. of Cedilanid, given intravenously in about eight minutes. More morphine was given intravenously, the patient's condition appearing critical, with dyspnea approaching exhaustion. Five hundred c.c. of blood were withdrawn rapidly by venesection. Clinical improvement became definite. Air hunger and cyanosis had almost disappeared, and the ventricular rate was 90 to 95.

From the history it was assumed that auricular fibrillation was of recent onset and had probably initiated both the acute left heart failure and the pulmonary embolism. Quinidine sulfate was therefore given orally, a 3-grain sensitivity dose being followed in one hour by 6 more grains, and this amount was repeated every three hours. Normal sinus rhythm was established after 18 grains of quinidine had been given, and sixteeen

hours after admission the pulse rate was 80 and clinical improvement was striking. A maintenance dose of quinidine sulfate, gr. 3 four times daily, and Cedilanid, two tablets daily, was prescribed. Oxygen was discontinued after thirty-six hours, and convalescence was uneventful. He left the hospital on the fifteenth day (Figs. 1 and 2).

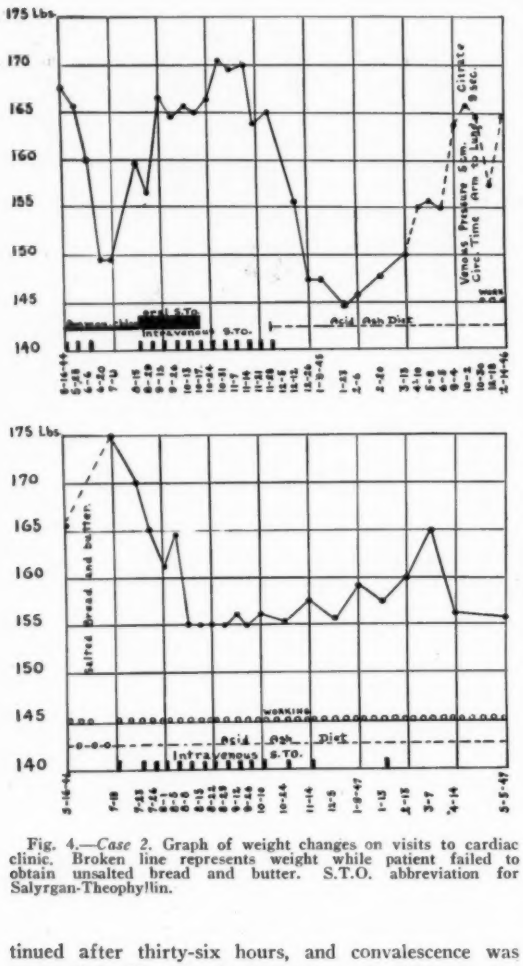

Fig. 4.—*Case 2.* Graph of weight changes on visits to cardiac clinic. Broken line represents weight while patient failed to obtain unsalted bread and butter. S.T.O. abbreviation for Salyrgan-Theophyllin.

In summary, acute left heart failure is a medical emergency often requiring a variety of therapeutic procedures, the most important being morphine, digitalis, oxygen, and in some cases venesection and diuretics.

Chronic right heart failure is a problem in edema control. If edema persists after digitalization and adequate rest, sodium intake should be sharply curtailed. F. R. Schemm believes that the diet should have an acid or a neutral ash, that dilute hydrochloric acid should be supplemented to insure proper acidity in order to liberate sodium in the intercellular spaces, and that a high fluid intake is important to promote diuresis and excretion of the liberated sodium. This method is quite satisfactory in patients with chronic dropsy provided the diet is strictly followed. In less severe cases, occasional use of the mercurial diuretics will suffice. The following case illustrates management of severe dropsy with both methods.

Case Report

Case 2.—F.B., a white man, sixty-two years old, first entered Ancker Hospital in 1944 with hypertensive heart disease, coronary sclerosis, auricular fibrillation, and right heart failure. Bilateral hydrothorax, ascites, and leg, ankle and sacral edema were present. Marked stasis dermatitis of the shins was striking in appearance, thick white scales overlying a mahogany-colored markedly edematous leg. Digitalization, prolonged bed rest, and large doses of both ammonium nitrate (grams 4 to 6 daily) and mercupurin (2 c.c. once or twice weekly) produced definite clinical improvement, but anasarca remained a problem.

Weekly or bi-weekly visits to the out-patient cardiac clinic for salyrgan-theophyllin intravenous injections followed hospitalization, the patient's weight and degree of edema showing the fluctuations one sees in these severe cases of dropsy with variations in their fluid intake and salt intake. His fluid intake at this time was supposed to be limited to between 800 and 1,000 c.c., but he frequently complained of thirst and undoubtedly greatly exceeded his quota on many occasions. (Schemm uses as one argument in favor of his high fluid intake for cardiac edema this common complaint of thirst in those treated with a low fluid intake). He had been warned to restrict his salt, and a "low salt cardiac diet" sheet was provided, but no issue had been made of the necessity of obtaining salt-free bread, butter, and salt-free vegetables.

On November 28, 1945, all diuretics were discontinued and the patient was given a strict full neutral ash diet after the manner of Schemm. A high fluid intake was obtained by the consumption of a glass of water hourly from 7 a.m. to 7 p.m., three drops of dilute hydrochloric acid being added to each glass. Digitalis was continued in a maintenance dose.

Figure 4 illustrates the patient's weight variations before and after the Schemm regime was initiated. The initial 20-pound weight loss was followed by an increase of 5 pounds as his appetite improved. Vigor and strength increased so that he was able to return to work, shoveling paper into a furnace in a paper box factory.

Between the middle of February and July, 1946, he was seen only once in clinic, and it was not until the latter month, with return of his edema and marked increase in his weight, that questioning revealed the cause. He had failed to obtain unsalted butter and bread. Resumption of the strict diet plus the help of a few injections of a mercurial diuretic (these were

(Continued on Page 298)

GENESIS OF RHEUMATIC FEVER

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THE definition of genesis according to Webster's New International Dictionary is "natural development into being." The purpose of this presentation, then, is to crystallize the available knowledge on the factors which precipitate acute rheumatic fever, and to discuss briefly the nature of the tissue reactions which take place in this disease.

Precipitating Factors

Role of Infection.—For many years, acute rheumatic fever has been considered by many competent authorities to be an infectious disease. In this country, the outstanding observations of Coburn[2] were among the first to center interest on the hemolytic streptococcus as one of the responsible agents, at least, for rheumatic fever. The concept that the hemolytic streptococcus is related in some undefined manner to rheumatic fever is now accepted by many investigators in this field. It is of interest that in 1927 Dr. Homer Swift of the Rockefeller Institute, who has devoted many years to the study of this disease, wrote in the first edition of Cecil's *Textbook of Medicine* as follows: "Rheumatic fever is a disease of undetermined etiology characterized by fever and a toxic state. . . ." Twenty years later, in 1947, Dr. Swift has included the section on "Rheumatic Fever" under streptococcic diseases in Cecil's seventh edition, and writes: "Rheumatic fever is a disease, infectious in nature, closely associated with invasion of the body by Group A hemolytic streptococci." Without detailing all the evidence in favor of the hypothesis that the hemolytic streptococcus is implicated in the genesis of rheumatic fever, the following may be stated.

1. Upper respiratory infections due to Group A hemolytic streptococci, such as nasopharyngitis, tonsillitis and scarlet fever, are frequently closely followed by rheumatic fever. In fact, epidemics of rheumatic fever have been associated with large numbers of cases of streptococcic respiratory disease.

2. Recurrent attacks of rheumatic fever are often preceded by streptococcic respiratory infections.

3. Patients with active rheumatic fever reflect certain immune responses characteristic of invasion of the tissues by hemolytic streptococci, such as an increased titer in the serum of antistreptolysin, antifibrinolysin and anti-M precipitins.

4. Although the sulfonamides do not alter the course of rheumatic fever, carefully controlled studies indicate that the prophylactic use of these compounds will prevent the invasion of tissues by hemolytic streptococci and thereby reduce the incidence of recurrent attacks of rheumatic fever.

The precise role of hemolytic streptococci in the genesis of rheumatic fever is not clearly understood, but the mechanism has been compared to the sequence of events which take place in human beings following the parenteral administration of horse serum. In other words, rheumatic fever is a manifestation of tissue hypersensitivity to the hemolytic streptococcus. Clinically, this relationship may be delineated by characterizing three phases of streptococcic diseases as follows:

Phase I	Phase II	Phase III
Suppurative and Toxic Phase Nasopharyngitis, tonsillitis, scarlet fever, puerperal sepsis, et cetera	*Latent Phase*	*Nonsuppurative Phase* Acute rheumatic fever

Phase I represents the initial invasion of the tissues by Group A hemolytic streptococci. This phase is characterized by suppuration, but the disease may be so mild that it may be completely overlooked. Although suppurative complications are largely prevented with available chemotherapeutic agents, the early use of the sulfonamides or antibiotics, even in the mildest cases, will not prevent the subsequent development of rheumatic fever. Successful chemoprophylaxis in rheumatic fever means the prevention of the invasion of tissues by hemolytic streptococci. Present-day chemotherapy limits the more severe manifestations of Phase I to a few days. The generally accepted opinion is that Phase II is a latent or asymptomatic period lasting from two to six weeks before the onset of Phase III or acute rheumatic fever. However, recent evidence would indicate that the

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period immediately following Phase I may be marked by extensive tissue reactions which are reflected in failure of the patient to regain his normal sense of well-being, low-grade fever, tachycardia, leukocytosis, accelerated erythrocyte sedimentation rate, and abnormal electrocardiographic findings.[7] These features indicate the presence of rheumatic fever, and may be so insidious that an undetected valvulitis may ensue. This may explain in part why it is so difficult to elicit a history of a frank attack of rheumatic fever in individuals with inactive rheumatic valvulitis. Nevertheless, Phase III, which is considered to be the stage of late nonsuppurative manifestations of hemolytic streptococcic infections, particularly upper respiratory diseases, is frequently ushered in with the explosive onset of migratory polyarthritis, fever, tachycardia, myocarditis, pericarditis, and valvulitis. Several possibilities exist as to the ultimate outcome of the patient having an initial attack of rheumatic fever. According to Keefer,[4] 2 to 5 per cent of all patients with acute rheumatic fever die within the first year, while the incidence is between 15 to 20 per cent in those individuals with evidence of acute carditis. On the other hand, it is estimated that, following an initial attack, between 15 and 30 per cent of the patients will recover completely without any residual cardiac damage. Unfortunately, in patients who recover completely or in those who recover with a residual valvular damage, there lurks the constant threat of recurrent attacks, particularly in children under fifteen years of age. And finally, bacterial endocarditis may be superimposed upon a healed but scarred rheumatic valve.

In summary, then, the writer is of the opinion that Group A hemolytic streptococci are related in some way to the onset of acute rheumatic fever. At the present time, the most logical concept of this relationship appears to be a state of hypersensitivity of the tissues to the streptococcus. The possibility that other microbes may initiate the disease is not denied. In fact, following cardiac damage by an initial attack of rheumatic fever, there may be several "trigger agents" which may be responsible for recurrent attacks of the disease. These may include microbes other than the hemolytic streptococcus.

Host Factors.—Although there is accumulating evidence that rheumatic fever is an infectious disease, there are other factors which enter into the genesis of the disease. One of these additional factors is the susceptibility of the host. Rheumatic fever has its greatest attack rate in children between the ages of three and fourteen years, with the highest frequency for initial attacks at about six or seven years. It is unusual for rheumatic fever to occur in infants. On the other hand, the disease is not at all uncommon in adults. The writer has observed an initial and fatal attack of rheumaic fever in a man over seventy years of age.

Another interesting feature about rheumatic fever is the existence of a hereditary predisposition for rheumatic fever. Several familial studies have indicated such a relationship.[6]

Environmental Factors.—Rheumatic fever has long been considered a disease of the temperate regions, occurring most frequently in cold and wet climates. However, it should be pointed out that the disease is quite prevalent in areas having a mild and dry climate such as Colorado and Utah. A considerable number of cases occurred in the military personnel during the past war in these areas, and the occurrence of the disease was associated with epidemics of upper respiratory disease due to the hemolytic streptococcus. Rheumatic fever is more prevalent in urban areas than in rural areas, which may be related to crowding and more intimate exposure to streptococcic disease. It is frequently stated that economic factors also enter into the genesis of the disease, the attack rate being greater in the poorer classes than in the rich. Malnutrition has also been considered a factor. Here, again, it is essential to bear in mind that poverty and malnutrition are associated with crowding, and that the element of exposure may be of more fundamental significance.

Tissue Reactions

The nature of rheumatic fever may be defined further by briefly outlining the tissue reactions that occur. Basically, rheumatic fever is a disease of mesenchymal tissues, namely, connective tissue and blood vessels. The initial lesion involves the collagen, causing focal areas of swelling, separation of the fibers by edema, swelling of the fibers, and then degeneration of the fibers. Associated with this tissue reaction, and much more prominent clinically, are exudative phenomena involving the joints, pleurae and pericardi-

um. Following these early tissue changes, there is the appearance of a characteristic type of proliferative reaction. This latter reaction is best exemplified by the rheumatic granuloma or Aschoff nodule, and is most conspicuous in the myocardium. Similar but less well defined proliferative lesions are found in the subcutaneous tissue, larger blood vessels, endocardium and heart valves. Clawson[1] has maintained that the Aschoff nodule is not specific for rheumatic fever. The ultimate outcome of this proliferative type of lesion, according to Swift,[11] is the replacement of granuloma cells by fibroblasts, resulting in formation of scar tissue, and the appearance of more collagen than existed originally. He also makes the significant statement that whereas salicylates cause a reduction in the inflammatory or exudative reaction, these drugs do not alter the course of the proliferative type of reaction. Thus, with the administration of salicylates, joint pain and the accompanying effusions abate, but subcutaneous nodules continue to make their appearance.

One of the difficulties that has persistently blocked a better understanding of the genesis of the lesions in rheumatic fever has been the failure to reproduce the disease experimentally in animals. Recently, Rich and Gregory[8,9] reawakened interest in this subject when they produced an anaphylactic type of tissue response in rabbits with horse serum. Histological studies of the myocardium revealed lesions closely resembling those of rheumatic carditis. In summarizing his experimental data, Rich[10] concluded that rheumatic fever represents focal hypersensitive reactions of the anaphylactic type to an antigen or antigens to which the body has been sensitized. While present evidence implicates the hemolytic streptococcus as the most common sensitizing antigen, it is not unlikely that antigens other than the hemolytic streptococcus may be responsible for some cases of rheumatic fever. The observations of Rich and Gregory have been confirmed by Fox and Jones,[3] and Kyser, McCarter and Stengle[5] have also produced a similar type of myocarditis in rabbits with horse serum and have made the additional significant observation that antihistamine drugs such as benadryl will impede the development of the lesions. It is becoming more and more clear that further studies on experimental rheumatic fever should include the utilization of several species of animals as well as different types of antigens.

Summary and Conclusions

This brief review indicates that there are many complicating factors that enter into the elucidation of the problem of the genesis of rheumatic fever. Although there is more than suggestive evidence that the hemolytic streptococcus is responsible for some cases of rheumatic fever, the precise mechanism whereby this species of bacteria provokes the disease is not clearly understood. The most logical working hypothesis at the present time is that in some cases, at least, there exists a hypersensitivity of the tissues to the hemolytic streptococcus. In addition, there are certain ill-defined host factors such as an inherited susceptibility of the tissues to this type of sensitivity. Further investigations are highly desirable on the relationship of the susceptible host to environmental factors such as exposure to infection and the response of the tissues.

References

1. Clawson, B. J.: The Aschoff nodule. Arch. Path., 8:664, 1929.
2. Coburn, A. F.: The Factor of Infection in the Rheumatic State. Baltimore: Williams and Wilkins Co., 1931.
3. Fox, R., and Jones, L.: Vascular pathology in rabbits following administration of foreign protein. Proc. Soc. Exper. Biol. & Med., 55:294, 1944.
4. Keefer, C. S.: Rheumatic heart disease: a phase of rheumatic fever. New Internat. Clin., 1: series 5, 117, 1942.
5. Kyser, F. A.; McCarter, J. C., and Stengle, J.: The effect of antihistamine drugs upon serum-induced myocarditis in rabbits. J. Lab. & Clin. Med., 32:379, 1947.
6. Paul, J. R.: The Epidemiology of Rheumatic Fever and Some of Its Public Health Aspects. Second edition, Chapter 9. Metropolitan Life Insurance Co., 1943.
7. Rantz, L. A.; Boisvert, P. J., and Spink, W. W.: Etiology and pathogenesis of rheumatic fever. Arch. Int. Med., 76: 131, 1945.
8. Rich, A. R., and Gregory, J. E.: Experimental evidence that lesions with the basic characteristics of rheumatic carditis can result from anaphylactic hypersensitivity. Bull. Johns Hopkins Hosp., 43:239, 1943.
9. Rich, A. R., and Gregory, J. E.: Further experimental cardiac lesions of the rheumatic type produced by anaphylactic hypersensitivity. Bull. Johns Hopkins Hosp., 45:115, 1944.
10. Rich, A. R.: The role of hypersensitivity in the pathogenesis of rheumatic fever and periarteritis nodosa. Proc. Inst. Med. Chicago, 15: (March 15) 1945.
11. Swift, H. F.: Rheumatic heart disease. Pathogenesis and etiology in their relation to therapy and prophylaxis. Medicine, 19:417, 1940.

INCIDENCE OF PULMONARY EMBOLISM AFTER VENOUS SCLEROSING THERAPY

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PULMONARY embolism through the ages has been one of the most feared catastrophes in the treatment of patients whether medical or surgical. Robertson,[1] former head of the Section on Pathologic Anatomy of the Mayo Clinic, aptly stated in regard to postoperative embolism: "Suddenly, almost always, out of a clear sky there is strange restlessness, rapidly ensuing shock with substernal distress, air hunger, collapse and death in a few minutes. The horror of the patient's relatives is echoed by the poignant distress and shock of the attending surgeon, colleagues and nurses" and may we add, to the friends in the community in which the patient resided.

In a statistical review of the records of postmortem examinations at the Mayo Clinic over a ten-year period, 1917-1926, Henderson found 313 cases of pulmonary embolism, 267 being surgical cases and forty-six nonsurgical. In 223 (83.5 per cent) of the cases the emboli were the primary cause of death. The average age of the patients was 53.2 years. Nineteen of the forty-six nonsurgical cases were cases of cardiovascular disease. The source of emboli was most commonly in the iliac, femoral or pelvic veins, prostatic plexus or vena cava in the order named. We believe that the incidence of fatal pulmonary embolism has decreased in recent years. Other studies have revealed this decrease. Some of the reasons for this decrease are as follows:

Anticoagulants have been introduced to forestall an acute or remote possibility of pulmonary embolism. Their proper use is well described by Allen, Barker and Hines.[2] The value of anticoagulant therapy is clearly indicated by the report of Barker and his associates[3] on 1,000 specially selected surgical patients who were given dicumarol in the immediate postoperative period. In the entire series only one death occurred from pulmonary embolism. This extremely low incidence of fatal pulmonary embolism is remarkable because 379 patients had demonstrated a thromobotic tendency at some time before operation and 438 had been subjected to abdominal hysterectomy. The statistical risk of thrombosis and embolism in abdominal hysterectomy is known to be high. One of us (F.L.S.), in an unpublished study on postoperative complication made in 1919, also observed this high incidence following abdominal hysterectomy.

The surgical interruption of the femoral vein was recommended for pulmonary embolism by Homans in 1934[4] and from 1941 on, in the medical service of the Massachusetts General Hospital, ligation became the treatment of choice but it usually was performed only on the affected side.[5] In 1943, bilateral interruption regardless of noninvolvement of the other extremity became the routine treatment of pulmonary embolism on that service. By the last procedure Carlotti and his associates at the Massachusetts General Hospital reduced the mortality rate from pulmonary emboli in the medical cases in the years 1941 to 1945 to 28.3 per cent as compared to 50.7 per cent in medical cases in which this procedure was not carried out after a nonfatal episode of pulmonary embolism.

In cases in which sclerosing treatment of varicose veins is planned at the Mayo Clinic, special care is taken in examining the extremities for evidence of vascular disease and in eliciting a history of any previous episodes which could be interpreted as being due to vascular disease of the lower extremities. Often localized atrophy, with brawny induration and discoloration, or slight edema of the leg suggesting some previous episode of thrombophlebitis is found. At the time this episode occurred, it often was not considered of any special significance by the patient or physician, if consulted, but was passed off as extraneous. Sometimes a patient who has had previous sclerosing treatment of a vein may volunteer the information or respond to a question to the effect that a few days following this treatment he had awakened at night "with a touch of pleurisy," had had difficulty in breathing or

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Read at the meeting of the Southern Minnesota Medical Association, New Ulm, Minnesota, September 8, 1947.

possibly had had rusty expectoration for which he took some aspirin, applied a mustard poultice to the affected side or remained in bed for a few days. In all probability an embolic episode was the source of the trouble. Doubtless many more respiratory episodes of this type occur after sclerosing treatment than are reported. This failure is due to lack of understanding of the true condition. The embolic accident when it does occur may be due directly to sclerosing treatment, or possibly its occurrence is a coincidence and previous episodes have followed an ancient thrombophlebitis.

Special care is taken in cases in which previous episodes or some indication of vascular disease is obtained. In our experience in sclerosing treatment of varicose veins at the Mayo Clinic we have found that the massive type of embolus is seldom encountered in such cases but rather small emboli occur which involve the lungs in varying degrees. A shotty appearance in the base of one or both lungs may be evident in the roentgenogram.

From 1927 through June 30, 1947, 11,700 patients have been treated for varicose veins at the Mayo Clinic and only seventeen of these patients (0.14 per cent) have had pulmonary emboli. Sixteen had nonfatal emboli and recovered without subsequent sequelae, and one had a fatal embolus. Prior to March, 1937, treatment in our series consisted mainly of injections. After 1937 the combined ligation and injection technique was used. This technique consists of injection of a sclerosing solution into the distal segment at the time of ligation of the great or small saphenous vein. Our yearly reports reveal that from 80 to 88 per cent of all patients were treated by the above procedure and the remainder received injections only. In 93 per cent of the cases in which operation was performed, the great saphenous vein and its tributaries were ligated and in 7 per cent the small saphenous vein was ligated in the popliteal space.

We have attempted to determine whether the seventeen patients who had pulmonary emboli had any characteristics which distinguished them from the patients whose course was uncomplicated. All seventeen were referred for venous therapy after complete examination. There were nine men and eight women. Their average age was fifty years. Three had mild hypertensive diseases, one had duodenal ulcer, one localized lupus erythematosus and one slight pneumoconiosis. One gave a history of deep thrombosis of the femoral vein ten years previous to coming to the clinic but complete involution had occurred before examination in the section on venous therapy. Varicose veins had been present for an average of twenty-seven years in the seventeen cases and the average length of time during which discomfort had been manifest was six years. Four patients had varices on one lower extremity only and thirteen had them on both lower extremities. Six had varicose ulcers. In six cases the embolic episode developed prior to 1937, whereas after 1937 when ligations were instituted, eleven occurred. In these eleven cases combined ligation and injection was employed.

The sclerosing solution used for the most part in our entire series was a 5 per cent solution of sodium morrhuate although a 10 per cent solution was used when a more concentrated solution was required. Quinine and urethane (Génévrier's solution), a solution of 50 per cent glucose and 25 per cent salt, 30 and 40 per cent solutions of sodium salicylates and 20 per cent solution of salt were all used early in the work but sodium morrhuate proved to be the solution of choice.

Always to identify patients during the treatment period who are likely to develop an embolic condition is practically impossible as all exhibit swelling and tenderness with local increase of heat resulting from the chemical endophlebitis. Occasionally chills and fever with moderate to high leukocyte count will be observed; this episode lasts for twenty-four hours or so and then the leukocytosis recedes. The local tenderness and swelling may last for some days. Their duration depends on the size of the vein treated. Our earliest embolic episode was four days and our latest sixteen days after beginning of treatment. In fifteen cases roentgenograms showed sufficient evidence to warrant a diagnosis of embolism with ensuing infarction.

Just what initiates the development of a thrombus is a matter of conjecture and in the literature reviewed various explanations were advanced.[2] Investigators are generally agreed that the basic principle on which they have been working is the prevention of formation of thrombi in the deep veins of the lower extremities. Enough information has been gathered to attribute the formation of a thrombus in many cases to operative

procedures. Allen and Linton reported that debilitated persons with restricted mobility of the lower extremities are likely to have thrombosis. Yet Munro in discussion of Albright's paper, stated that in the army general hospitals in England pulmonary embolism rarely occurred in 250 cases in one series and in 500 in another in which patients paralyzed because of injury to the spinal cord were confined to bed and their legs were immobile for months. Thrombosis is prone to develop in association with trauma and infections. All investigators have observed the increased incidence of thrombosis in patients more than forty years of age.

It is difficult to determine why an embolus develops during active sclerosing treatment. Chemical endophlebitis should anchor the thrombus at the site of the injection. Tributary communicating veins may be a factor for phlebothrombosis may develop in them although the walls of the veins may not be affected, and some muscle contraction may express the soft jelly-like clot into the deep circulation. Necropsy has revealed that clots had formed during life and propagated rapidly toward and into the large veins with no evidence of injury to the vein walls but simply with stasis or stagnation of circulating blood.

Inasmuch as thrombophlebitis of the lower extremities is the main factor in surgical procedures regardless of the site of the operation, patients who have undergone injection treatment and operation, especially those confined to bed, should have leg and foot exercises at frequent intervals and, when physical condition permits, actual walking is beneficial.

Before the days of anticoagulants at the clinic we hospitalized at once patients who had pulmonary emboli after sclerosing treatment, placed them in the Fowler position and immobilized the chest as much as possible with binders and by the hypodermic use of morphine sulfate every four hours until the respiratory rhythm was reduced to 10 or 12 per minute. Enough sedation was given to keep the patient in a semicomatose state in an oxygen tent containing a mixture of 50 per cent oxygen. The oxygen compensated for the low volume intake and also more or less prevented pulmonary abscess or bronchiectasis if these did not previously exist. We found that if the patients with a severe involvement did not die in twenty-four hours, they recovered.

It is now our practice to hospitalize any patient who is suspected of threatening venous clotting, as a prophylactic measure and to begin anticoagulant therapy immediately. If the consultants on the vascular service advise operation because of likelihood of a thrombotic migration from thrombophlebitic involvement in the extremity, the region of the deep veins of the extremity is explored and ligation is performed.

Summary

In the period 1927 through June 30, 1947, 11,700 patients were given sclerosing treatment for varicose veins at the Mayo Clinic. In seventeen of these pulmonary embolism developed, an incidence of about 1.4 per thousand. There was only one death in the series from pulmonary embolism. In our experience anticoagulant therapy has proved adequate when venous clotting appears likely or nonfatal pulmonary embolism occurs and occasionally operation is resorted to in addition. A thorough preliminary history and examination are essential in cases in which sclerosing treatment is planned.

References

1. Albright, H. L.: Thrombophlebitis—the problem of treatment. New England J. Med., 236:928-931, (June 19) 1947.
2. Allen, A. W., Linton, R. R., and Donaldson, G. A.: Venous thrombosis and pulmonary embolism. J.A.M.A., 133:1268-1274, (Apr. 26) 1947.
3. Allen, E. V., Barker, N. W., and Hines, E. A.: Peripheral Vascular Diseases. Philadelphia: W. B. Saunders Company, 1946.
4. Barker, N. W., Cromer, H. E., Hurn, Margaret, and Waugh, J. M.: The use of dicumarol in the prevention of postoperative thrombosis and embolism with special reference to dosage and safe administration. Surgery, 17:207-217, (Feb.) 1945.
5. Carlotti, Jacques, Hardy, I. B., Jr., Linton, R. R., and White, P. D.: Pulmonary embolism in medical patients: a comparison of incidence, diagnosis and effect of treatment in two hundred and seventy-three cases at the Massachusetts General Hospital in two five-year periods (1936 to 1940 and 1941 to 1945, inclusive). J.A.M.A., 134:1447-1452, (Aug. 23) 1947.
6. Henderson, E. F.: Fatal pulmonary embolism; a statistical review. Arch. Surg., 15:231-236, (Aug.) 1927.
7. Homans, J.: Quoted by Carlotti, Jacques, Hardy, I. B., Jr., Linton, R. R., and White, P. D.[5]
8. Robertson, H. E.: Pulmonary embolism following surgical operation. Am. J. Surg., 26:15-18, (Oct.) 1934.
9. Smith, F. L.: Unpublished data.

Case Reports

EPISTAXIS

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EPISTAXIS is hemorrhage from the nasal cavity. It may vary in quantity from a mere trickle or trace to a free flow of blood so severe that syncope will follow and serious anemia be produced. Death may occur from prolonged and repeated nasal hemorrhages.

While epistaxis is not near and dear to the hearts of most otolaryngologists, all of us are faced sooner or later with the problem of nasal hemorrhage, whether it be mild and prolonged or severe and profuse.

I wish to present case which apparently had a perfectly innocent onset and developed into something quite the opposite as far as etiology and end results were concerned.

Case Report

A patient, Mrs. L. D., aged fifty-eight, was seen on the evening of December 26, 1946, at St. Mary's Hospital, at the request of her family doctor. She had been bleeding from her left nostril for twenty-six hours.

The examination on admission was confined to the head, and particularly to the nasal cavities, because of the critical condition of the patient. The only positive finding was a simple erosion about 6 mm. in diameter, round, and not penetrating as deep as the cartilage in Kiesselbach's area on the left.

The nasal mucosa was shrunk with 0.5 per cent neosynephrine and anesthetized with 1 per cent pontocaine spray; cotton was placed in the posterior choanae, and all clots were removed with a nasal suction tip. Then the area was cauterized with a silver nitrate stick. The lesion still oozed.

Next, the mucosa of the area was elevated by injecting 1 per cent procaine containing 3 minims of adrenalin to the ounce. After ten minutes the area bled again.

Finally, I used trichloracetic acid, neutralized it with bicarbonate of soda, and applied Gelfoam with sterile trombin, and the bleeding ceased.

Six hours later she oozed again, and 10 c.c.'s of the patient's own blood plus 1 ampule of Hykinone were injected intramuscularly. She did not bleed until the next day.

The following day the relatives were interviewed, and it was revealed that on January 26, 1946, she had had a left mastectomy. The pathological diagnosis of the removed breast showed carcinoma simplex with seven lymph nodes involved.

On the same day as the interview with the relatives and the general examination of the patient, she bled again from the right side of her nose and from an area similar to the one previously described on the left side.

This time electrocautery was used at once, and I had visions of perforation of the septum, since the two cauterized areas were directly opposite each other. Simultaneously, she was again given Hykinone, one ampule. This was followed immediately by two blood transfusions. Her blood counts next day were as follows: red blood cells 2,710,000, white blood cells 4,300, with a differential count showing polymorphonuclears 65 per cent, lymphocytes 25 per cent, monocytes 3 per cent, and new "stab" forms 7 per cent.

X-rays of the lumbar spine and the pelvis on December 27 showed no metastatic malignancy. An x-ray of the sinuses showed no bony destruction. The blood cultures were negative. The chest plate was normal, except for left ventricular hypertrophy. The patient had a few bouts of slight oozing which gradually ceased. Nasopharyngoscopic examination failed to show any abnormality in the epipharyngeal vault, but there was considerable vascular congestion of the area.

She was given five deep x-ray treatments to her nose between January 13 and 18.

It was during this time that a small firm mass, about 1 cm., in diameter, was noticed above her left eye. It was almost rock-like in consistency. Small petechiae appeared in her soft palate, and a few hemorrhages were present in the fundus of the left eye. At the same time she showed some hemorrhage behind her left ear drum, accompanied by a mild conduction deafness with the Weber to the left.

Her blood picture on January 20, following her third transfusion, was alarming: red blood cells 880,000, white blood cells 9,100, hemoglobin 21 per cent, platelets 120,000, bleeding time 23 minutes and 30 seconds (checked), and clotting time 3 minutes and 30 seconds.

She was put on (1) cevitamic acid, 100 mg., t.i.d., (2) Cenolate, 200 mg., intramuscularly, q.d., (3) Demerol, 100 mg., q.d., and Lederle's liver, 45 units, q.d.

On February 1, 1947, a sternal biopsy was done. This was negative. This was repeated on May 2, 1947, and was again negative, the reason for which will be indicated shortly. Meanwhile, her blood counts had risen. By May 26, 1947, her red blood count was 1,820,000 and the white blood count was 8,300. Her bleeding time, shortly after her transfusion plus the Hykinone, had been reduced from 23 minutes and 30 seconds to 6 minutes and 40 seconds. However, her platelets which were 120,000 on January 20, had gradually fallen off until by February they were hovering around 73,500. In the meantime, the various petechiae that she had disappeared, her left ear returned to normal, her hearing returned, but she continued to show some hemorrhage in both eyegrounds.

Since we felt that this case was obviously one of a malignancy, most likely metastatic, the patient was cared for symptomatically in the hope that lethal exodus would not be too far off.

Her left eye was now completely closed by this tumor mass which had extended completely round it in the periorbital tissue. Furthermore, she now presented similar areas of tumor masses in the right orbit. The patient remained rational and there remained but one thing to do: biopsy the mass in the left orbit, i.e., the original area, or to biopsy the little masses in the right orbit. We feared that a biopsy at this time might cause severe hemorrhage, or the wound might not heal and the cosmetic results in the end would

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perhaps reflect upon the advisability for such a procedure, particularly from the relatives' point of view. However, a biopsy was obtained from the orbital tissue on the left on June 16. The biopsy showed: "Carcinoma simplex with occasional tendency to adenomatous arrangement of the cells . . . mitoses are commonly present." The pathological diagnosis was metastatic carcinoma.

Since the cells found on biopsy of the orbital tissue were similar in appearance and structure to those cells found in the microscopic examination of the tissue from the left mastectomy a year ago, at which time the diagnosis of carcinoma simplex was made, both orbital masses would seem to be metastatic from carcinoma of the left breast a year ago.

The patient expired the morning of June 22, 1947, having lapsed into coma twenty-four hours previously.

Postmortem examination revealed carcinomatosis of the liver, spleen, pleura, pericardium, and skin. The medullary portion of the ribs was replaced by hard yellow tissue. Section through the lumbar vertebrae showed the bodies of the vertebrae to be replaced by similar yellowish gray firm tissue. Section through the sternum showed the same type of tissue. This tissue (carcinoma) was so firm in the sternum that two previous biopsies of the sternum had failed, as has been noted previously.

MALIGNANCY OF THE GALL BLADDER ASSOCIATED WITH CHRONIC CHOLELITHIASIS

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THE purpose in presenting this case report is to focus attention on the subject of carcinoma of the gall bladder, and to briefly consider the incidence, symptomatology, treatment, and prognosis of this condition.

Case Report

The patient, a sixty-five-year-old white woman, first presented herself for treatment on June 20, 1947.

Present Complaint.—Her chief complaint was of upper right quadrant pain which had been present for about two months. The pain was almost constant and quite severe at times and was associated with anorexia, sleeplessness, and weight loss of about 12 pounds.

Past History.—Thirty years earlier she had had an hysterectomy, together with removal of ovarian tumors. No record of this procedure was available. She had had a tonsillectomy twelve years previously. She denied any other serious illnesses, operations or injuries.

History By Systems.—She had had several attacks of pleurisy—the last several years earlier. She had been troubled with cystitis occasionally but this condition was under control at the time. On close questioning, she admitted to having been troubled with "dyspepsia," associated with bloating and upper abdominal pain at times, for the past twenty years. This was never so severe as to require medical attention. She denied ever having been jaundiced. She had been constipated occasionally and took cathartics at times.

Physical Examination.—The patient was a well-developed, well-nourished white woman in no acute distress. The only positive finding of note was tenderness on deep palpation in the right upper quadrant. No mass could be felt, and the liver was not enlarged. There was no jaundice. The spleen was not palpable. The heart and lungs were normal. The blood pressure was 140/80. Pelvic and rectal examinations were negative. The urinalysis was normal. Hemoglobin was 12.5 grams.

X-Ray Findings.—A flat plate of the abdomen failed to reveal any urinary or biliary calculae. Administration of dye showed the presence of a nonfunctioning gall bladder.

Operation.—An exploratory laparotomy was performed on June 26 under sodium pentothal, ethylene, and curare. A high right rectus incision was made. The gall bladder was found to be slightly enlarged, thick-walled, with a contraction and new growth formation in the region of the neck. There was extension of the growth to the under surface of the liver. There were several nodules (metastatic) on the upper surface of the liver, one of which measured approximately 2 cm. in diameter.

The gall bladder was opened and found to contain about forty smooth faceted stones all about the same size, 5 cm. in diameter.

It was useless to attempt to remove the gall bladder as it would have involved resection of a portion of the liver to extirpate the new growth. This would have accomplished nothing in view of the presence of metastases. A simple drainage of the gall bladder was done, suturing into place a large rubber tube. A biopsy of the gall bladder wall was taken and one of the nodes from the liver was removed for study. The wound was then closed. The tissue removed showed adenocarcinoma.

Postoperative Course.—The patient left the hospital on the fourteenth day after an uneventful convalescence. There was considerable bile drainage from the tube at first but this had diminished markedly by the time of her discharge.

The patient's condition at present is precarious. She looks cachectic, she is losing weight, her hemoglobin is falling rapidly, she has no appetite and complains of extreme weakness and pain. She will shortly succumb to her carcinoma.

Discussion

The history of this case is almost typical for this condition. It will be noted that there is nothing that would lead one to arrive at a diagnosis of carcinoma. The history, symptoms, and findings are those of a benign biliary disease. There are no further x-ray or laboratory tests that could have shed any light. The most unfortunate aspect is that, although the diagnosis was established at operation, it was already too late to accomplish anything by surgical means.

There has been considerable material in the medical literature on the subject of carcinoma of the gall bladder. I wish to summarize briefly the more recent reports.

Incidence.—Carcinoma of the gall bladder may be said to comprise 5 per cent of all carcinoma deaths. It is in fifth place in frequency of incidence of carci-

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noma of the organs of digestion (1. stomach; 2. colon and cecum; 3. rectum; 4. esophagus; 5. gall bladder and ducts). It accounts for 0.33 per cent of all deaths as determined by autopsy. In a combined study of 35,054 operations on the gall bladder, there were 393 carcinomas—an incidence of 1.12 per cent.

Sex.—About 80 per cent of carcinomas of the gall bladder occur in women, and it constitutes between 8 and 10 per cent of all carcinomas found in women. This greater incidence in females is considered to result from the preponderance of gallstones in women.

Age.—With rare exceptions, the patients with malignancy of the gall bladder are in the carcinoma age group. The average age is sixty years.

Causative Role of Cholelithiasis.—The great majority of cases of carcinoma of the gall bladder show the presence of stones prior to the development of the neoplasm. Most authors indicate that stones are present in about 80 per cent of cases. Several have reported cases of carcinoma developing in patients who have had stones removed but cholecystectomy was not performed. One may conclude that 4 to 5 per cent of patients having gallstones will develop cancer.

There is experimental evidence to show that neoplasms may be produced in gall bladders of laboratory animals by the introduction of foreign bodies.

Symptomatology.—The most constant symptom of carcinoma of the gall bladder is pain—usually localized in the right upper quadrant. The duration may be from a few weeks to a few months. It is dull and constant and may exist with or without colic. There is usually weight loss which depends largely on the severity of the gastrointestinal disturbance. Anorexia is almost always present. Vomiting is common, especially if there is obstruction in the duodenum. Jaundice, usually continuous, is present in about 50 per cent of cases. A mass is present in about 50 per cent of cases, as is a palpable liver edge. Nodules may be felt if there are metastases present. Anemia is not marked although it is usually present.

Differential Diagnosis.—Among the conditions to be differentiated are the following: carcinoma of the stomach, malignancy of the liver, carcinoma of the hepatic flexure of the colon, and syphilis of the liver.

Treatment.—Carcinoma of the gall bladder is usually inoperable by the time the diagnosis is made. Various authors have suggested radical procedures, depending on the location and extent of the growth. Palliative measures, especially an attempt to restore the flow of bile, should be undertaken when indicated. In most cases the removal of tissue for diagnosis has been the only procedure attempted.

Prognosis.—This can be summed up in one word—"gloomy." The majority of patients die within one year. Extension is by local infiltration of the gall bladder wall, then to the liver and ducts. Distant metastases may occur but are not common. The liver is usually involved at the time of operation. The majority of cases are of the adenocarcinoma type.

Summary

1. A typical case of carcinoma of the gall bladder is presented.

2. A brief review of the literature leads to the following conclusions:

(a) Carcinoma of the gall bladder is more common than is generally supposed.

(b) The clinical picture of carcinoma of the gall bladder is similar to that of benign biliary disease.

(c) Gallstones are probably an etiological factor in the production of malignancy of the gall bladder. For this reason, with present-day surgical methods, prophylactic removal of symptomless calculous gall bladders is justified.

(d) The diagnosis of carcinoma of the gall bladder must be made by operation, but the surgical treatment of the condition is of little value, and the prognosis is poor.

References

1. Marshall, Samuel F., and Morgan, E. S.: Carcinoma of the gall bladder. S. Clin. North America, Lahey Clinic number, 18:687, (June) 1938.
2. Mattson, Hamlin: Carcinoma of the gall bladder. Minnesota Med., 25:985, (Dec.) 1942.
3. Mohardt, John H.: Carcinoma of the gall bladder: collective review. Internat. Abstr. Surg., 69:440, (Nov.) 1939.
4. Petrov, N. N., and Krotkina, N. A.: Experimental carcinoma of the gall bladder. Ann. Surg., 125:241, (Feb.) 1947.

VAGOTOMY IN THE TREATMENT OF IDIOPATHIC ULCERATIVE COLITIS

(Continued from Page 255)

5. Grimson, K. S.; Baylin, G. J.; Taylor, H. M.; Hesser, F. H., and Rundles, R. W.: Clinical evaluation of complications observed after transthoracic vagotomy. Arch. Surg., 55:175, (Aug.) 1947.
6. Harper, P. V., and Dragstedt, L. R.: Section of the vagus nerves to the stomach in the treatment of benign gastric ulcer. Arch. Surg., 55:141, (Aug.) 1947.
7. Hollander, F.: The insulin test for the presence of intact nerve fibers after vagal operations. Gastroenterology, 7: 607, 1946.
8. Keil, M. A.: Folic acid. Staff Meetings Univ. Minnesota Hosp., 18:170, (Jan. 17) 1947.
9. Lium, R.: Peptic ulcer and diarrhea following removal of prevertebral ganglia in dogs. Surgery, 9:538, 1941.
10. Martin, Laurence: Treatment of ulcerative colitis with thiouracil. Lancet, 2:944, (Dec. 28) 1946.
11. Moore, F. D.: Resection of the vagus nerves for ulcer: an interim evaluation. 1. Operative technic and hospital management. Arch. Surg., 55:164, (Aug.) 1947.
12. Prudden, J. F.; Lehman, W. L.; Meyer, K., and Gelhorn, A.: Lysozyme activity in chronic ulcerative colitis. Presentation at Am. Coll. Surg. meeting, New York, (Sept. 10) 1947.
13. Walters, W.; Neibling, H. A.; Bradley, W. F.; Small, J. T., and Wilson, J. W.: Gastric neurectomy: anatomic and physiologic studies with favorable and unfavorable results in the treatment of peptic ulcer. Arch. Surg., 55:151, (Aug.) 1947.
14. Wangensteen, O. H.; Friesen, S. R., and Lillehei, C. W.: Personal communications.
15. Wilson, Russell: Personal communication.

History of Medicine In Minnesota

NOTES ON THE HISTORY OF MEDICINE IN FILLMORE COUNTY PRIOR TO 1900

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(Continued from February issue)

Charles H. Wagner (the name sometimes appears as Wagoner) was born at Wyocena, Columbia County, Wisconsin, on February 12, 1853. In 1860 the Wagner family removed to St. Charles, Winona County, Minnesota, where the father continued his occupations of farmer and dealer in boots and shoes. Before 1870 the family was established in Eyota, Olmsted County.

Charles Wagner received his early education in the common schools and the high school of St. Charles and in 1870 took an academic and premedical course at the University of Minnesota which he followed, in the winter of 1871-1872, with a course of study at the Homeopathic Hospital College at Cleveland, Ohio. In the spring of 1872 Dr. C. H. Wag(o)ner opened offices at the Anker Hotel in Spring Valley and there engaged in the practice of medicine until, in October, he returned to the Homeopathic Hospital College to complete his medical training; on February 12, 1873, he was graduated in medicine and surgery with an additional degree of M.F.H. for literary merit.

Returning to Spring Valley as physician and surgeon Dr. Wagner began in earnest his life in that community. On June 4, 1874, he was married to Luella F. Brown. A historical note of 1882 stated that of the four children of the marriage three were then living; that Dr. Wagner had been county physician three years and was serving as chairman of the village board of health; that he was progressive and was liberal in his professional views, not confining himself to any one school of medicine. Under the act of 1883, to regulate medical practice in the state, he received certificate No. 410 (H) on November 26, 1883.

Although Dr. Wagner is believed, with reason, to have practiced in Spring Valley into 1887, a confusing note appears that in 1881-1882 Dr. C. H. Wagner was in the little village of Money Creek, Houston County. According to another note a Dr. Wagner was in Hartland, Mower County, in the late eighties. Whatever his other moves may have been, Dr. Charles H. Wagner, long of Spring Valley, left that village at the end of the decade and before 1890 was established in Faribault, Rice County. After a few years in Faribault he turned over his practice to Dr. Charles M. Robilliard and moved to Minneapolis.

When Dr. Wagner died in Minneapolis on March 1, 1920, at the age of sixty-seven years, the *Journal-Lancet* stated that he long had been retired from medical practice.

S. W. Wallace, physician, possibly an itinerant practitioner, was in Preston, residing at the Stanwix Hotel, in 1862. His professional card ran in the *Preston Republican* from April 19 to November 7, inclusive, of that year. His name has not been found in medical directories or registers.

James Madison Wheat, one of the ten children of Silas Wheat and Eunice Dewey Wheat, was born on April 5, 1825, at Franklin, Delaware County, New York. The other children of the family (in 1943 all long since dead), were Sibyl Ann, Cordelia Eliza, George Washington, Sylvanus Addison, William Dwight, Mary Amanda, Maria Louise, Clarinda Rebecca and Lemira Frances. The father, Silas Wheat, a farmer and a native of New York State, lived to be ninety-six years old, failing by some years, however, to reach the age of his father, a sea captain who was 102 when he died. The mother, Eunice Dewey, related distantly to Admiral George Dewey, was born in Westfield, Massachusetts.

James Madison Wheat was a pupil in the district schools of Delaware County near Franklin and at the Delaware Literary Institute, the equivalent of a good high school, in Franklin. After his graduation from the Institute he went to Kentucky and there, a mere boy, taught school for eight months. On returning home he assisted in the office of Dr. Albert Sullard and studied medicine under Dr. Sullard's instruction in preparation for taking a formal medical course. He first enrolled at the Geneva Medical College at Geneva, New York, and subsequently continued his training at the Albany Medical College, Albany, New York, from which he was graduated in 1853.

Immediately after his graduation Dr. Wheat began his medical career in his native Delaware County but after a year or so, again trending to the West, he moved to Tennessee. And not long after that, in 1855, he traveled into Iowa, perhaps by way of the Mississippi River from Memphis to Dubuque. In the following winter he entered Minnesota in true pioneer style, having got a ride on a bobsleigh, he much later told his children.

In 1856 Dr. Wheat took up land in Fillmore County and established his office and home in the new little settlement of Lenora, platted around a cross-roads in northeastern Canton Township. When presently a local school district was organized, he served on the school board, and after a little red schoolhouse was built in the autumn of 1856 just south of Lenora, he was one of the first teachers. It was as a member of the board that he first met Almira Electa Foote, a native of Clinton, New York, who came to Lenora in the early sixties from Spray River, Wisconsin, to apply for the school. Dr. Wheat and Miss Foote were married on June 10, 1862; two children were born to them, James Foote and Ida May.

With the coming of the Civil War Dr. Wheat tried to enlist in the Union Army but he was rejected because of his health, which never had been robust. Tall, thin, and frail-looking, he was wiry and, more important, courageous. Throughout the period of the war he met the rigorous conditions of frontier practice, made more difficult by the national crisis, giving his time and skill freely without thought of payment, and this was always true of him, sometimes driving or riding on horseback days in succession to visit his patients when he was little able to do so. He was not an even-tempered man, but although a little irritable when fatigued, he never was ill-natured and he was known all his life as a real friend to those whom he served. In the early period of the war and at the height of the Sioux uprising in southern Minnesota, Dr. Wheat returned home after one of his longer absences to find the village

deserted, his family gone with the rest. There were hours of dismay and frantic search until he learned that the villagers had fled to the east because of an Indian scare. The report fortunately was unfounded, Dr. Wheat overtook the caravan with the good news and the settlers returned. This small but complete exodus was a favorite joke with the Wheats and other families for many years.

From the beginning of his life in Minnesota Dr. Wheat was a useful citizen. As noted, he served on the first local school board. For three years, from January, 1865, to January, 1868, he was county coroner; in 1873, at least, he was in attendance at the county poor farm in surgical cases. In 1875 and again in 1877 he (and Dr. H. C. Grover, of Rushford) was elected as a representative of the district in the state legislature, and in 1878 and 1879 and from 1881 to 1886, inclusive, he was state senator. His years in the legislature were made notable by the impeachment and trial of Judge Sherman Page, in 1878, and of Judge E. St. Julien Cox, in 1882, and particularly, in 1881, by the ratification of the constitutional amendment "The Swamp Land Act," for which Dr. Wheat long had worked, in the face of bitter opposition, and of which he was the author. The amendment provided that from the sale of the remaining swamp lands of the state a fund should be established, one half of the income from which should go to the schools and the charitable institutions of Minnesota. Of apparently little import at the time, in public opinion, the measure secured to the schools and institutions an ultimate benefit of great worth.

Medical organization began early in Fillmore County, as has been noted, and Dr. Wheat was identified with it as charter member of the Fillmore County Medical Society that was founded in the autumn of 1866, and as one of the committee to draft the constitution and by-laws and the fee bill. And on February 23, 1875, at the annual meeting of the Minnesota State Medical Society he became a member of the organization and was appointed to the Committee on Epidemics, Climatology and Hygiene. Four years later he became a member of the Committee on Finance, on which he served for the remainder of his residence in Minnesota. At the annual summer session in 1885 Dr. Wheat reported a case, of which his excellently written account is on record, of intra-uterine fibroid tumor of five years' duration and the surgical operation for removal of the growth, performed on July 8, 1884, a procedure in which he gave credit to Dr. Henry H. Haskin, of near-by Canton, who often assisted him in surgery. Dr. Wheat was versatile; he was dentist on occasion; and in cases of whatever type, he did not allow lack of especially designed equipment to be a barrier to proper treatment. Once when he had set a broken elbow joint of a small girl, he prescribed that the child should carry a flatiron (probably the kind with the handle molded into the body of the iron) in the hand of the injured arm; the advice was followed and full function of the arm and joint resulted. Under the act of 1883 to regulate medical practice in the state Dr. Wheat on May 2, 1884, registered as from Preston, obviously through a clerical error, received certificate No. 894 (R).

A constant student in his profession, Dr. Wheat read widely in other fields as well and also exercised his gift for writing poetry. He was a member of the Congregational Church and of the Masonic Blue Lodge of Preston, which he joined, it is recorded, on October 12, 1864, when he was thirty-eight years old. An excellent extemporaneous speaker who always gauged well his audience and the circumstances, he was much in demand as spokesman at weddings, funerals and other less solemn special occasions. In histories of the county

there are references to Dr. Wheat as maker of appropriate remarks at a golden wedding, as giver of a eulogy at a funeral and, in 1878, as a speaker at the initial meeting of The Old Settlers' Association of the Southern Tier of Counties in Minnesota, of which he was an organizer. And in the same histories it is written that he "probably has traveled more miles and attended a greater number of patients than any other doctor in the county." Throughout his residence in Lenora he was the only physician in the village and, whatever the conditions of his practice, he maintained home and office on his farm near by. When after many years he moved from Lenora, he was succeeded by Dr. Jay Le Roy Sackett, of regrettably brief professional career.

Although never a restless man, Dr. Wheat had a keen interest in progress, in travel and in new scenes and when, in 1883, the Northern Pacific Railway Company completed its line to the Coast, he was a passenger on the first through train "to see what is out there." It is not surprising that when the time came for a change of residence, the West was his choice. In the winter of 1886 Dr. Wheat contracted a severe cold from which recovery was tedious and unsatisfactory; knowing that he probably could not survive another severe Minnesota winter, he sold his farm home near Lenora and his other considerable property in the community and early in September, 1887, moved with his family to the newly established town of Redlands, San Bernardino County, in southern California. One lingering regret of his children, at least, even among the attractions of the new home, was the Big Spring of cold clear water in a tract of woodland that Dr. Wheat had owned between Lenora and Canton.

Dr. Wheat had intended to retire from medical practice, but the community of Redlands was young and growing and there was such urgent demand for an experienced physician that he obtained a California state license and continued his active professional life. For many years, until only a few months before his death, he was the city health officer of Redlands and was for long the secretary of the Redlands board of health. As his son has said, "He grew up again in a new place and lived to a ripe old age, active in his profession and respected by all who knew him. He gave his time and his skill for many years without regard to his own well-being."

James Madison Wheat died at Redlands on November 27, 1910, from a stroke. He was survived by his wife and the two children. The daughter, Ida May Wheat, who became an accomplished musician, died in 1918. Mrs. Wheat lived until June 25, 1933. James Foote Wheat, the son, in 1943 continued to reside in Redlands, where at different times he had served as city treasurer, county recorder, postmaster of Redlands and, more recently, president of the Redlands Real Estate Board.

A. C. White, physician and surgeon, established his office and residence in Preston in October, 1871. A Preston newspaper stated that he recently had come from Muskegon, Michigan, and that he had the confidence and recommendation of Dr. Lafayette Redmon (a practitioner of superior type) who was about to leave the county. Nothing further about Dr. White has been observed.

Alvah Fancher Whitman, who for fifteen years was to be a physician of Fillmore County, Minnesota, was the son of William H. Whitman and Malissa Green Whitman, both natives of New York State, and was born at Galway, Galway Township, Saratoga County, New York, on November 29, 1831. Wil-

liam H. Whitman, a miller, came of a family who were early in the state, as did Malissa Green. The Whitmans were of the same line as Marcus Whitman, medical missionary into the Northwest.

When Alvah Whitman was eight years old, in 1838, his parents with their young family moved into the Middle West and were among the earliest settlers in Brunswick, Shelby County and, a little later, in Sun Prairie, Peoria County, Illinois. In the local schools of these communities their five children, Alvah, Charles P., James E., Harriet M. and Nancy C. Whitman obtained their early education.

When Alvah was only fourteen years old, the sudden death of his father from typhoid fever during an epidemic of the disease left him the head of the family, and in the years of struggle that followed, his native qualities of thrift, self-reliance and self-forgetfulness developed into characteristics that distinguished him all his life. A few years after her husband's death Malissa Whitman was married to James Pettit and she moved with him and her children to Waupun, Wisconsin, where Alvah Whitman entered high school. Already intent on becoming a physician, the youth early began teaching school in order to earn money for college and by 1851 he was able to matriculate at the University of Wisconsin. There he studied for three years, but when that period came to an end his funds reached an end also and as an expedient on leaving college he joined a surveying party which was to lay out the right of way for the old Milwaukee and La Crosse Railroad from Beaver Dam to Portage, Wisconsin, and to the site of the present Hampton, Iowa. At Hampton he exchanged his transit for real estate and for a time devoted himself to farming and to teaching school.

He cherished his dream of becoming a physician and in 1862 returned to Waupun, Wisconsin, to study medicine in the office of Dr. H. L. Butterfield. Probably in the next year he entered the Medical School of the University of Michigan, at Ann Arbor, for in 1865 he was graduated with his degree of doctor of medicine. On October 2, 1865, he was married to S. Mathilda Smith, a schoolteacher, and in that autumn, at Charles City, Iowa, he began his medical career. Dr. and Mrs. Whitman had one child, who died at birth.

In 1868 Dr. Whitman settled in Spring Valley, Fillmore County, Minnesota, where for the next fifteen years he practiced medicine, in and about that village, in his own county and in neighboring counties, developing a wide and friendly acquaintance among the laity and the members of the medical profession. Some of his medical colleagues in Spring Valley in those years were, in roughly chronological order and in varying lengths of residence, Wallace P. Belden, Russell L. Moore, French W. Thornhill, Lyman Viall, Frans J. Van Mackelenbergh and Charles H. Wagner, and, early and briefly, J. J. Morey, afterward in Etna, and G. M. Pingree. Shortly after his arrival in Fillmore County Dr. Whitman allied himself with the Fillmore County Medical Society, which had been founded in 1866; he sometimes mistakenly has been listed as one of the charter members. When, in 1879, the society suspended activities, he was serving as its secretary. He became a member of the Minnesota State Medical Society in 1871 and there is evidence that he co-operated faithfully with the State Board of Health (organized in 1872).

Of fair complexion, with light brown hair and blue eyes, about five feet eight inches in height, heavy-set, free from addictions, peaceable and genial in disposition, he was well liked and has been remembered with respect. Always interested in promoting education, it was he who started the first

public library in Spring Valley, setting aside a small room in his office building for the purpose, and he helped many struggling young students, smoothing their educational and financial paths. Although his practice was general and he was considerate of old and young alike, he was devoted to children, who were very fond of him, and he was especially successful in treatment for children's diseases, bringing to his cases not only his ability as a physician but also an almost equal ability as a nurse. And although it does not always follow that a person who is gentle with his own kind is gentle with animals, Dr. Whitman valued animals and was considerate of them. He treated his horses well and enjoyed their confidence and faithfulness; during times of unusual outbreaks of sickness, which meant long weary drives into the countryside, he could not count on regular hours of sleep and therefore would doze in his carriage or his cutter, according to season, on homeward trips, trusting the horses to take him safely. And they never betrayed his trust, but jogged evenly along until they reached their own barn door, when Dr. Whitman would awake, to stable them and feed them in preparation for the next trip, soon to come.

In the early years in Spring Valley Dr. Whitman's professional card appeared in the local *Western Progress,* symmetrically spaced for harmonious effect and worded as follows: "A. F. Whitman, M.D., Physician and Surgeon. Residence, 1st house north of the Congregational Church, Spring Valley, Minnesota." He attended services at both the Congregational and the Methodist Churches and for several years taught adult classes in Sunday School. Although he did not write for publication, he had a gift for using words which he employed in compiling an account of his early life that has been preserved among the family records. Perhaps his greatest creative pleasure lay in gardening. Besides trees, shrubs, berry bushes, a grape arbor and vegetables, he had a large and beautiful flower garden laid out in the formal geometrical beds that were much admired in those days. There was none comparable in the village.

Not long after Dr. Whitman settled in Spring Valley, his stepfather and his mother, Mr. and Mrs. James Pettit, came there also to make their home. A note has been observed in a county history of 1912 that on September 16, 1881, Mrs. Pettit was seventy-six years of age.

In 1883, disposing of his home, his office building and his farm on the outskirts of Spring Valley, Dr. Whitman moved to Saint Paul, where he continued to practice; his residence was on Dayton Avenue. On December 28, 1883, under the medical practice act of that year, he received state certificate No. 488 (R). In this period of his life he became a member of the Ramsey County Medical Society and for a time served as its necrologist. He attended the Plymouth Congregational Church and later the People's Church of Saint Paul.

Alvah Fancher Whitman died in Saint Paul on December 21, 1913, a few days subsequent to a stroke, in his eighty-second year. Mrs. Whitman survived until August 22, 1919.

G. M. Willis was a pioneer physician in Fillmore County. In the autumn of 1866, then a resident of the village of Carimona, in Carimona Township, he was one of the founders of the Fillmore County Medical Society and at the organizational meeting in the office of Dr. Redmon of Preston, on October 17, was elected corresponding secretary of the group. Other mention of Dr. Willis has not been noted. In 1867 and 1868, as recorded in *The Minnesota*

Railroad and River Guide, G. M. Willis, perhaps the same man, was postmaster in Rushford, Carrolton Township.

A **Dr. Wilson** was in Chatfield, Fillmore County, from the early sixties well into the seventies, according to sparse evidence. The *Preston Republican* of February 5, 1864, announced, "Dr. Wilson of Chatfield is in town," and in a commercial register of the summer of 1872 there was listed Dr. ——— Wilson of Chatfield, apparently a fair business risk. As far as inquiry has been possible to the writer, Dr. Wilson does not live in the memories of Chatfield citizens. There seems possibility, if not probability, that the Dr. Wilson of Chatfield and Dr. Henry L. Wilson (H. Wilson), sometime of Carimona and Preston, were the same.

Henry L. Wilson (usually H. Wilson), came to Carimona, Carimona Township, it has been said, in the fifties and there practiced medicine for about seven years. Sometime in the middle sixties, again hearsay, Dr. Wilson left Carimona, perhaps left the county, but after some years he returned and opened an office in Preston. After a few months in that village he moved permanently and "his last years were spent in the new southwestern Minnesota, where he died. He was considered a very competent physician for his time."

Fortunate access to some early newspapers of Fillmore County and of Olmsted County gave a few notes that helped in piecing together a story of this physician. In August, 1864, Dr. Wilson, of Carimona, was appointed assistant surgeon in the Sixth Minnesota Regiment of Volunteer Infantry, in which Wallace P. Belden of Spring Valley was a senior surgeon; the two men received their appointments on the same day in St. Paul and traveled homeward together as far as Rochester. Dr. Wilson served with the regiment until August 19, 1865. When, on October 17, 1866, at Preston, the Fillmore County Medical Society was organized, as stated previously, Dr. Wilson, still of Carimona, was present and was appointed a member of the committee, with Dr. J. M. Wheat and Dr. A. H. Trow, to draft the constitution and by-laws and a fee bill. Although his name did not appear again in notices concerning the society, he was in the county into the winter of 1867, as evidenced by official record of his remuneration to considerable amounts for attendance on paupers. On January 12, 1867, however, the *Rochester Post* announced that Dr. H. Wilson, "formerly surgeon of the sixth regiment," had called on the way to Saint Paul, where he intended to locate for the practice of his profession. "He abandons a large and paying practice in Fillmore County, and with his acquirements, experience and established reputation as a surgeon is sure of a successful career at the capital." On March 9, 1867, the *New Federal Union,* of Rochester, stated that Dr. Wilson had established himself at Dundas, Rice County, where he had bought a first-class drugstore. The next news of him came in the *Preston Republican* of February 12, 1869, in which it was announced that he had resumed the practice of medicine in Fillmore County, in the village of Forestville, and that he would be ready at all times to attend the wants of the afflicted. Forestville is about four miles southwest of Carimona and is in Forestville Township, which borders Carimona Township on the west. Two weeks later the editor of the paper added to Dr. Wilson's official announcements the statement that Dr. Wilson had returned to the county and that "he has all the business he can attend to."

It was on May 3, 1869, as nearly as can be established, that the Fillmore County Eclectic Medical Society was organized in Preston at the office of Dr. Orson A. Case, and it was then that Dr. Wilson, evidently eclectic in thought, transferred from the Fillmore County Medical Society to the new group. In this year and for a time in 1870 he served as president and as such he requested the secretary, Dr. J. W. Eighmy, to forward copies of the proceedings to the county newspapers and to the *Chicago Eclectic Medical Journal.*

Dr. H. Wilson, according to his professional cards, was still in Forestville into November, 1870. Announcement of his removal to Preston or elsewhere was not noted, but it seems probable that sometime in the early seventies he went into southwestern Minnesota. Under the Affidavit Law of 1887 Dr. Wilson received an exemption certificate. As late as 1890 he was in Woodstock, Pipestone County.

O. Wold, with offices on Jessie Street, was practicing medicine in Rushford around 1869-1870. His name was observed in a business directory of the period but not in any medical directory.

Fordyce Worth, a resident of Hesper, Winnesheik County, Iowa, a village about two miles below the Minnesota state line and directly south of Mabel, Newburg Township, Fillmore County, was by citizenship a physician of Iowa, but beginning in 1870 his practice extended well into Fillmore County, Minnesota. Long before the village of Mabel (founded in 1885) existed and, in fact, long before any resident physician of Fillmore County lived in the community, Dr. Worth was a trusted physician in that region. (Dr. Charles W. Cady settled in Mabel in 1892; Dr. A. P. Lommen began to practice there in 1895; and Dr. Hildus A. O. Nass came in 1898.) Today, the remaining pioneer citizens of the community, some of them now residents of Mabel, associate Dr. Worth definitely with their early history. For that reason biographical notes concerning him are included here.

Fordyce Worth was born on December 9, 1831, at Starkboro, among the hills of northeastern Addison County, Vermont, the son of a farmer. His mother, whose maiden name was Carpenter, was American born, the daughter of a Quaker family. When Fordyce Worth was seventeen years old and after he had received his early education in the local schools, he went to Mt. Gilead, Ohio, where he served for two years as an apprentice in a machine shop. The next three years he spent in the lumber trade in Wisconsin. By that time, 1853, having determined on the profession of medicine, he began his medical study, probably under a preceptor, and presumably he continued thus for the next several years. In 1856 he bought property in Winnesheik County, Iowa, and there opened a general store. In 1859, it has been said, he went to Chicago to the Bennett College of Eclectic Medicine and Surgery. Either his medical education was interrupted further and for a long time or there has been error in the recording of dates, for he was graduated in 1870; it seems likely that he matriculated in 1869 and took his degree the following year; a formal course of a year was usual at the time, especially if a student had for a considerable period worked under a preceptor.

After his graduation in 1870 Dr. Worth settled in Hesper, and in October, 1871, succeeding Dr. W. C. Battey, Hesper's first postmaster, Dr. Worth was appointed to the office, which he held for the ensuing twenty-seven years. In 1886, under changing laws of medical practice, he was licensed as a physician in Iowa and on February 25, 1887, he received Minnesota license

No. 1310 (E). He was a Mason (A. F. and A. M.), a member of the Decorah Lodge No. 181, and a member of the Modern Woodmen of America.

In 1856 Fordyce Worth was married to Sattie Keyes, a native of Ohio, at Muscatine, Iowa. There were two children of the marriage, Alice and Henry. A vivid little picture of Dr. Worth has come down the years from a Christmas when his children yet believed in Santa Claus; to aid illusion the doctor made large and convincing tracks in the snow up and down the shed roof which led to the chimney, and correspondingly through the yard, to suggest that the reindeer had been waiting just outside.

After his wife's death, in 1886, Dr. Worth was married for the second time, in 1888, to Dr. Louisa Day, who was born in 1850 and who graduated from the Bennett College of Eclectic Medicine and Surgery in 1879. From Hesper, Dr. Worth and Dr. Louisa D. Worth together carried on their large medical practice which extended, as has been noted, into Fillmore County, Minnesota.

Dr. Worth survived his second wife and he continued his medical practice until about 1918, when ill health forced him to retire. When he died in March, 1920, he had for some three years been making his home with his son, R. Henry Worth, of La Crosse, Wisconsin. His daughter, Alice Worth Edmunds, had died previously. In 1943 Mr. R. H. Worth continued to reside in La Crosse.

Do we "idealize the doctor some?"

Bibliography

Adams, W. T.: The Southern Minnesota Medical Association, a historical sketch. St. Paul M. J., 13:54-59, 1911.

American Medical Association, official directories of. 1907 (first edition) to 1943, inclusive.

Articles that have appeared in the section on medical history of *Minnesota Medicine,* 1938-1943.

Bishop, J. W.: History of Fillmore County, with an Outline of Her Resources, Advantages, and the Inducements She Offers to Those Seeking Homes in the West. Chatfield, Minnesota: Holley and Brown, Printers, Republican Office, 1858.

Chatfield Democrat. Issues from September 11, 1857 (initial number), through 1859; excerpts from various issues of the early eighties.

Chatfield Republican. Issues from October 25, 1856 (initial number), through 1862.

Chicago, History of Medicine and Surgery and Physicians and Surgeons of 1803-1922. Endorsed and supervised by the Council of the Chicago Medical Society. Chicago: Biographical Publishing Corporation, 1922.

Christianson, Theodore: History of Minnesota. Chicago and New York: American Historical Society, Inc., 1935.

Clapesattle, Helen B.: Health and Medicine in Rochester. Minnesota History, 20:221-224, (Sept.) 1939.

Commercial Agency Register. New York: McKellop, Sprague & Co., 1872.

Davis, E. J.: The Minnesota Valley Medical Association. St. Paul M. J., 13:60-62, 1911.

Fairchild, David S.: History of Medicine in Iowa. Reprinted from the *Journal of the Iowa State Medical Society,* 1927.

Fillmore County, History of. Compiled by Franklyn Curtiss-Wedge. Chicago: H. C. Cooper, Jr. and Co., 1912.

Folwell, William Watts: A History of Minnesota. Saint Paul: The Minnesota Historical Society, 1926.

Grassick, James: North Dakota Medicine. Published by the North Dakota Medical Association, 1926. Grand Forks, North Dakota: Page Printing Company.

Halloran, Timothy: The History of Chatfield. Written from memory, early in 1897, by Mr. Timothy Halloran. A few facts about good roads and letters from Ireland. Chatfield, Minnesota: Chatfield News Printery, 1902.

Houston County, Minnesota, History of. Edited by Franklyn Curtiss-Wedge. Winona, Minnesota: H. C. Cooper, Jr. and Co., 1919.

Kemper, G. W. H.: Medical History of Indiana. Chicago: American Medical Association Press, 1911.

Leonard, Joseph A.: History of Olmsted County, Minnesota. Chicago: Goodspeed Historical Association, Publishers, 1910.

Logan's Classified Business Directory. Saint Paul: Newton and Company, 1873.

Mervin's Business Directory for 1869-1870. Saint Paul: Herman Mervin.

Michigan, Medical History of. Published under the auspices of the Michigan State Medical Society. Minneapolis and Saint Paul: The Bruce Publishing Company, 1930.

Minnesota and Wisconsin, Medical Directory of. Chicago: Galengouser & Co., 1890.

Minnesota Gazetteer. Saint Paul: Groff and Bailey, Publishers, 1865.

Minnesota Gazetteer and Business Directory. Saint Paul: H. E. Newton & Co., St. Paul Press, Printers, 1872.

Minnesota Historical Society Collections. Volume 14, 1912; volume 17, 1920.

Minnesota, Illustrated Historical Atlas of. Chicago: A. P. Andreas, 1874.

Minnesota in the Civil and Indian Wars, 1861-1862. 2nd Ed. Prepared and published under the supervision of the Board of Commissioners appointed by the Act of the Legislature of Minnesota of April 18, 1889. Saint Paul: Pioneer Press Company, 1891.

Minnesota, Inventory of the County Archives of. No. 23. Fillmore County (Preston). Minnesota Historical Records Survey Project, Division of the Community Service Programs, Works Progress Administration. Saint Paul. January, 1942.

Minnesota Railroad and River Guide. 1867-1868. Compiled by A. Bailey. Saint Paul: J. Marshall Wolfe, Publisher, 1867.

Minnesota State Board of Health and Vital Statistics, Annual Reports of, 1874-1900.

Minnesota State Board of Medical Examiners.

Minnesota State Department of Health, information, through the courtesy of Dr. D. A. Dukelow, regarding county boards of health.

Minnesota State Gazetteer and Business Directory. Volume I, 1878-1879. Detroit, Michigan: R. L. Polk & Co. and A. C. Danser.

Minnesota State Gazetteer and Business Directory including Dakota Territory. Volume 2, 1880-1881; volume 3, 1882-1883. Detroit, Michigan: R. L. Polk & Co.

Minnesota State Gazetteer and Business Directory including Dakota and Montana. Volumes 4 to 12, inclusive, 1884-1901. R. L. Polk & Co.

Minnesota State Medical Society, Transactions of the, 1869-1900.

Minnesota, The Geological and Natural History Survey of. 1892-1896. Volume III, Part II. Paleontology. (The University of Minnesota.) Published by the authority of the State. Minneapolis: Harrison and Smith, State Printers, 1897.

Minnesotans, The Book of. Chicago: A. N. Marquis & Co., 1907.

Mower County, History of. Compiled by the Inter-State Publishing Company. Mankato, Minnesota: The Free Press Publishing House, 1884.

Mower County, History of. Chief Editor, Franklyn Curtiss-Wedge. Chicago: H. C. Cooper, Jr., 1911.

National Republican (Preston). Issues from September 15, 1881, through October 6, 1887.

Neill, Edward D.: History of Fillmore County including Explorers and Pioneers of Minnesota, and an Outline History of the State of Minnesota. Also: Bryant, Charles: The Sioux Massacre of 1862 and State Education. Minneapolis: Minnesota Historical Company, 1882.

Neill, Edward D.: History of the Minnesota Valley. Also: Bryant, Charles S.: History of the Sioux Massacre. Minneapolis: The North Star Publishing Company, 1882.

Neill, Edward D.: History of Hennepin County and the City of Minneapolis. Minneapolis: The North Star Publishing Company, 1881.

Official Register of Physicians of Fillmore County, 1883-1900, through the courtesy of Mr. Carl J. Johnson, Clerk of Court, Preston, and Miss Louise Langard, Deputy Clerk.

Official Register of Physicians Licensed in Minnesota. 1883-1890, State Medical Examining Board of Minnesota; 1883-1909, State Board of Medical Examiners.

Olmsted-Houston-Fillmore-Dodge County Medical Society, minutes of, for record of merging of the four county medical societies.

100 Years of Medicine in Minnesota. Minnesota State Medical Association, 1941.

Packard, Francis R.: History of Medicine in the United States. New York: Paul B. Hoeber, Inc., 1931.

Preston Republican. Issues from November 2, 1861 (initial number), through 1865; from November 2, 1866, through May 9, 1873.

Riggs, E. Eugene: Minnesota medicine in the making; personal reminiscences. Minnesota Med., 4:579-587, (Oct.) 1921.

Roberts, Thomas S.: The Birds of Minnesota. Minneapolis: The University of Minnesota Press, 1932.

Rochester City Post. Miscellaneous issues from 1863 to 1879, inclusive.

Southern Minnesota Medical Association, minutes of, 1892-1900.

Wabasha County, History of, together with Biographical Matter, Statistics, etc. Chicago: H. H. Hill and Company, 1884.

Walsh, James J.: History of Medicine in New York: Three Centuries of Medical Progress. New York: National Americana Society, Inc., 1919.

War Department, The Adjutant General's Office, biographical data (military records of pioneer physicians) from.

Western Progress (Spring Valley). Issues from 1870 to 1874, inclusive.

Who's Who in Minnesota. Section on Fillmore County. Minnesota Editorial Association, 1941.

Winona and Olmsted Counties, History of. Chicago: H. H. Hill & Company, 1883.

Wisconsin, Minnesota, Iowa and Nebraska, Medical Directory of. Chicago: Galengouser & Co., 1896.

Zeuch, Lucius H.: History of Medical Practice in Illinois. Volume I (preceding 1850). Issued by the Illinois State Medical Society. Chicago: The Book Press, 1927.

DONALD BANNERMAN PRITCHARD (1865-1931)

An unsigned article, *History of Medicine in Winona County,* which appeared in *Minnesota Medicine* in 1940, unfortunately did not include a biographical sketch of Dr. Donald Bannerman Pritchard, of Winona. Therefore the following sketch, which originally was prepared as part of *Notes on the History of Medicine in Fillmore County,* because of Dr. Pritchard's early residence in Rushford, is presented now.

Donald Bannerman Pritchard, who was to become one of the distinguished physicians of Minnesota, spent the first two years of his professional life as an able practitioner in the village of Rushford, Fillmore County, and the ensuing forty-two years in Winona, Winona County.

Born at Fort Garry (Winnipeg), Canada, on February 19, 1865, Donald Bannerman Pritchard was the son of Samuel Pritchard, an English Episcopal minister, and Johanna Bannerman Pritchard, of Scotch birth. The Reverend Mr. Pritchard and his family were early settlers in the Winnipeg district, which was under the domination of the Hudson's Bay Company; the five children were Donald, Adelaide, Robert, Charles and Ida. In 1943 the only member of the group living was Adelaide (Mrs. Richard Goodrich) of California.

Educated in academic subjects at St. John's School and College, an Episcopal institution in Winnipeg, and in medicine at the University of Edinburgh, Scotland, where he studied four years, Donald B. Pritchard was graduated at Edinburgh in 1887. In after years he took postgraduate work in Philadelphia. On his return to America, Dr. Pritchard was licensed by examination to practice in Minnesota, receiving certificate No. 1370-1 (R) on April 20, 1887, and he at once settled in Rushford. On October 27, 1891, he was married to Mary E. Hanson, an American girl, of Rushford. The two children of the marriage were Helen B. Pritchard (in 1943 registrar at the Winona State Teachers College) and Margaret, who died on November 4, 1930.

In 1889, shortly after moving to Winona, a larger town than Rushford and situated advantageously on the Mississippi River, Dr. Pritchard became a member of the Winona County Medical Society. Note should be taken of

his paper, "The Contagiousness of Tuberculosis," that he presented on admission to the group. Written thus early in his medical career, it was original and of striking text on a moot subject, and it aroused spirited and acrimonious argument among a group of mature physicians. In the fifty years and more that have elapsed since that reading, only one statement in the exposition of his theory and conclusions has failed of confirmation; namely, that a perfectly healthy individual would not contract tuberculosis and that "it is only after the health has become below par from the many influences that may bring about such a result that it is possible for the bacillus to find a resting place." In recent years, at a meeting held under the auspices of the Buena Vista Sanatorium to honor Dr. Pritchard's memory, that paper again was presented, and it was discussed from the standpoint of its wisdom and lasting value.

A general practitioner and surgeon, Dr. Pritchard practiced independently in Winona for one year and then entered into partnership with Dr. J. B. McGaughey, with whom he remained until Dr. McGaughey died in 1908. In 1901 a firm known as "The Associated Physicians and Surgeons" was organized, in which Dr. Pritchard and Dr. J. B. McGaughey were associated with Drs. E. D. Keyes, N. S. Lane, H. M. Lichtenstein, Oswald Leicht and H. F. McGaughey. This firm continued for several years. Later Dr. Pritchard again practiced alone, occupying offices with Dr. Lichtenstein. In 1930 and 1931 he was associated in practice with Dr. L. I. Younger.

Dr. Pritchard lived a useful life, a moving spirit in professional and civic progress. He was a member of county, state and national medical associations and of special professional groups. The first physician of Winona to become a Fellow of the American College of Surgeons, he was also a member of one of the national standing committees of the College. Chief organizer of the Winona General Hospital, which was established in 1894, he was largely responsible for obtaining funds for construction of the hospital buildings, and he served continuously as a member of the board of trustees until his death in 1931. When the executive committee of the hospital board was organized, he was its first chairman, and thereafter its secretary; he was also president of the hospital staff for many years and was an instructor in the nurses' training school of the hospital. Dr. Pritchard served as city health officer of Winona from 1907 to 1919 and in that time brought about many vital improvements in administration. He is recognized as the originator of the present city health department. For a number of years he was on the Board of Health of Winona County as well. For six years, during four of which he was its president, he was a member of the Board of Education of Winona.

Dr. Donald Bannerman Pritchard died in Winona on September 22, 1931, survived by his wife and his daughter. In tribute to him, the Winona *Republican Herald* published editorials, from which much of the foregoing information was drawn and from which the following excerpt was taken:

> It would be unfair to other Winonans to say that Dr. Pritchard built the Winona General Hospital, or that he was the individual responsible for Winona County's fine system of modernized highways, but it is proper to state that Dr. Pritchard was the energetic force that made Winona realize these needs and crystallized public sentiment into concrete action. Today these and other attainments of this Winonan may appear to be simple natural developments in community life, but that conclusion is the evolution of the idea. The pioneering that Dr. Pritchard persistently did for these humanitarian necessities was as hazardous as was the building of the first house on the Winona prairies. It required vision and energy to combat popular sentiment and leave the path of least resistance. The hospital building, and the ribbons of concrete and other fine highways that cross this county are demonstrations of how this Winonan attained his visionary goals.

—NORA H. GUTHREY

President's Letter

NO FIRMER FOUNDATION

"A profession has for its prime object the service it can render to humanity; reward or financial gain should be a subordinate consideration."

Thus begins the statement of the Principles of Medical Ethics, Section I, Chapter 1, formulated by the American Medical Association. Medicine, one of the highest professional callings, can have no better nor firmer foundation. It is by the closest adherence to this principle that the profession should be able to withstand any man-made threats to its prestige and its freedom.

One such challenge to the sincerity of the medical profession has come with the extension of the services of the government in providing for the social welfare and security and the entrance of a third party into the doctor-patient relationship. This third party is the agency, which supported by taxes or public funds, pays for medical care for such groups as the indigent, the aged, the blind or disabled, veterans and inmates of correctional institutions. Non-government agencies and other organizations have come into existence which also provide care for certain groups of persons.

This third party poses a major problem which the medical profession must solve. Physicians must provide constructive leadership so that high-type medical care is assured all persons who come under the jurisdiction of the various agencies or who look to these agencies for help in meeting the cost of needed medical care.

A specific problem which requires close co-operation between the profession and the agency is that of the establishment of a fair and equitable schedule of fees. Most of the schedules arrived at by the various agencies have been fair; seldom have they been excessive; and, of course, sometimes they have been quite low. The feeling of responsibility for those unable to pay is strong in the physician, and when the patient is indigent, most physicians render adequate service regardless of fee. This is most commendable. This service is, in fact, the cornerstone of the profession's public relations. At the same time, no reasonable person expects the profession to assume full responsibility for *every* indigent patient. By working together physicians and agencies which they serve can arrive at agreements that will be satisfactory to both.

It is the occasional resorting to dishonorable practices and the use of devious methods to increase fees that must be eliminated if the good name and good will of the entire body are to be safeguarded. If a small minority of the profession is allowed to continue in its efforts to get the most possible for the least amount of effort when the third party pays the bill, private medicine's high aims will fall short of achievement and its objectives will be seriously challenged.

That must not happen. Petty self-interest has no place in medicine. If in the past physicians had allowed themselves to place personal gain before duty to the patient and to the public, medicine could never have achieved its present eminence nor its record of accomplishment. Medicine was founded on service to mankind and all of its organizational activities are

directed to the improvement of that service. Physicians worthy of the name ask themselves not "What will I get out of this?" but "How can I best serve?"

The personal integrity of every member of the medical profession is its best weapon against the political quackery which today threatens the world. In our own country, congressional miracle workers are constantly propounding new cure-alls for the people's ills. The formulas, however, always have the same basic ingredient—compulsory health insurance. The latest preparation of these do-gooders is labeled S.1320—a bill to provide a federally-administered national health insurance and public health program.

The bill represents a philosophy foreign not only to doctors of medicine but to the country as a whole. It would mean the entrance of government into still another field—that of the private practice of medicine—and it would edge the country one step nearer totalitarianism. Who can stop the government from practicing medicine. The answer is YOU, Doctor.

We have agreed that some form of insurance is one way to meet the cost of illness; but we debate whether compulsion should have a part. If we maintain that compulsion should not enter the picture, then we must show that the voluntary method will work. The voluntary prepayment medical care program is the godchild of organized medicine. It is up to physicians to see that it has every opportunity to grow and develop to the limit of its possibilities.

This is going to mean some sacrifice on the part of the medical profession, together with a firm resolve to place the common good above personal gain. Men of medicine should by reason of their fibre be able to meet this challenge. We can meet the requirements of any program which the government has set up by co-operating as far as possible with agencies providing medical care. We can also make voluntary health insurance work.

It's up to us now. We have a chance to prove ourselves. Let us make the most of it.

President, Minnesota State Medical Association

Editorial

CARL B. DRAKE, M.D., *Editor;* GEORGE EARL, M.D., HENRY L. ULRICH, M.D., *Associate Editors*

PROPOSED BLUE CROSS-BLUE SHIELD MERGER

THE information broadcast in the January 19 issue of *Time* that Dr. Paul R. Hawley, recently resigned medical director of the Veterans Administration, had been appointed the administrator of the Blue Cross-Blue Shield merger on a national basis, came as a surprise. The announcement was made by Roy E. Larson, president of Manhattan's United Hospital Fund and former director of the New York Blue Cross, at a joint Blue Cross-Blue Shield dinner held in Washington, January 10. The assumption seemed plausible that all the Blue Cross and Blue Shield organizations, the former with 29,250,000 and the latter with a membership of 7,250,000, had effected a national organization.

The announcement in view of the facts seems unaccountable. No such merger exists. As a matter of fact, meetings are being held in March to consider the advisability of such a step. So far a report of a subcommittee of the Blue Cross-Blue Shield committee, including tentative by-laws, was approved February 3 by the Blue Cross Commission, and the proposal was discussed at a joint meeting held in Chicago March 6 and is to be considered at a meeting of the Blue Shield Commission in Los Angeles, March 26 and 27.

There are those who believe it would be a distinct advantage to the growth of both Blue Cross and Blue Shield plans if the two organizations were to be combined on a national scale to provide uniform policies and procedures and to facilitate insuring on a wider than state basis. The thought too has been expressed that such an organization might be of value in contacting governmental agencies in the hospital and medical care of the indigent on a state or national basis.

Notwithstanding the advantages of such a merger of hospital and medical insurance plans, the proposal has already met strongly voiced opposition and is likely to meet still more. The following appeared in an editorial in the March issue of *Northwest Medicine:*

> "Announcement of a 'merger,' when in fact there was no merger, struck many western doctors as resembling an effort to stampede such a merger by presentation of what might be accepted as a *fait accompli* by the uninformed or unthinking. Actually, it has come to be considered nothing but a brazen attempt, using the prestige of Dr. Hawley's recent success with the Veterans Administration, to accomplish at the national level what has repeatedly failed or been rejected at lower levels."

Recently, representatives of Blue Shield plans of California, Oregon, Idaho, Montana and Utah met in San Francisco and drew up resolutions to the effect, in brief: (1) that inasmuch as Blue Shield plans are the responsibility of the medical profession, any national merger should recognize the parity of the Blue Cross and Blue Shield groups; (2) that any encroachment by the Blue Cross or any similar institution into assumption of responsibility for prepaid medical care in the United States is undesirable and must be stopped, and (3) that an independent national insurance corporation which upon formation would thereupon be in competition with other commercial insurance companies on a national scale is undesirable and should not be created. Finally, they consider the proposed merger on a national basis undesirable and at variance with the best interests of the future of voluntary medical care plans in the United States.

A perusal of the by-laws of the proposed merger indicates that, if adopted, there is little evidence that the medical profession would have much voice in determining policies of the new association. Individual Blue Shield organizations, while operated by members of the AMA and state medical associations, are separate and distinct organizations. The organized profession has received little or no consideration on the part of those who have been trying to effect this merger. It is not difficult to see that the proposal involves the formation of a powerful national organization which may take control of the Blue Shield plans out of the hands of the medical profession.

NATIONAL PHYSICIANS COMMITTEE

ON the evening of February 27, 1948, representatives from many of the county medical societies of the state met at the Lowry Hotel, Saint Paul, to hear of the activities of the National Physicians Committee and of the need of such a medical publicity organization to counteract the insidious propaganda which is being conducted by socialists and communists alike to undermine our economic system. Socialists favor the ultimate socialization of all industry, and medical practice heads the list. The communists constitute a political party taking its directions from a foreign government and have the avowed purpose of destroying our form of government by any means, including violence. There are only too willing to aid the socialists in their aims.

Dr. Louis A. Buie's President's Letter, which appeared in our November, 1947, issue, contained a complete statement of the commendable record which the NPC has made during the past decade in publicizing the truth about medical practice in these United States and the subversive activities of communists and so-called "social reformers" in their efforts to destroy the American way of life. Any member who has not read that President's Letter should do so.

There has been some uncertainty on the part of some of our members as to the status and even as to the need of such a publicity organization as the NPC. It was organized by some outstanding members of the AMA, who saw clearly the need of united action to counteract the activities directed towards the undermining of medical practice and private enterprise in general. Members of the NPC are all outstanding members of the AMA, and many have given generously of their time and talent to the activities of this organization. It may have been felt by some physicians that with the establishment of the Committee on Medical Service of the AMA there was less need for the NPC. This is not the case. While the Committee on Medical Service is doing valuable work in the furthering of medical insurance and keeping in touch with legislation, anyone who heard the NPC representatives, Ed. Stagen and Arthur L. Conrad, depict the astounding and widespread underhanded activities of the communists in our country must have realized that there is more to do than the Committee on Medical Service can possibly accomplish alone. The facilities of the NPC enable them to go much farther in the ferreting out of communistic activities which are permeating educational institutions and affecting the youth of our country in the colleges and even grade schools.

Those representatives from the various county societies who attended the February 27 meeting, called by Dr. Ed Hayes of Minneapolis, constitute the State Committee co-operating with the NPC. All who were present must have been impressed by the seriousness of the threat, not only to medical practice but to individual freedom in our country. They will doubtless carry the message to their county medical societies and present the goal of every society member, a member of the NPC to their confreres. Not only can the members of the profession do their part by supporting the NPC financially, but in their contacts with the laity and as members of school boards can fight the communistic and socialistic underhanded propaganda which has found its way not only into school textbooks but into a number of organizations which innocently or underhandedly give their aid and support.

GASTRIC RESECTION VERSUS VAGOTOMY

RECENTLY, the results of surgical procedures for treatment of peptic ulcer at the University of Minnesota have been reviewed. In this investigation 416 consecutively operated cases of peptic ulcer were considered. The mortality in elective cases was 2.9 per cent. The operation recommended consists of at least 75 per cent resection of the stomach, followed by a retrocolic anastamosis with the jejunum at the duodenojejunal junction producing a short afferent loop with inversion of the lesser curvature in the Hofmeister pattern. The recurrence rate of ulcer after this operation was less than 1 per cent. There are probably few series in which so many cases have been reported, the mortality as low, and the cases so carefully studied. There is no question but that the experimental work of Wangensteen and his co-workers concerning the pathogenesis of peptic ulcer is the most comprehensive and conclusive to date.

Within the past few months, two surgical journals have devoted several articles to the question of vagotomy in the treatment of duodenal ulcer.[1,2] The rationale of vagotomy is that it decreases gastric tone and the amount and degree of gastric

acidity. There is some experimental clinical evidence to show, however, that within a year or two after vagotomy, the fasting acidity and motility of the stomach readjust themselves to denervation and return to normal values.

Most surgeons perform vagotomy through a transabdominal approach, by which route the vagus can be completely sectioned in 80 to 90 per cent of cases. While one can be surer of cutting all the vagal fibers through the transthoracic approach, the fact that the transabdominal approach permits examination of the ulcer is a decided advantage. There is no question but that duodenal ulcers in some instances heal following vagotomy and the patients become symptom free. How permanent this healing is, no one can say at present. Some ulcers heal even after a gastroenterostomy, but it is generally agreed that the frequent development of jejunal ulcer following this operation makes it undesirable. Just what patients should be subjected to vagotomy is not clear. Certainly vagotomy should not be resorted to in the treatment of gastric ulcer. One must review the cases of ulcer treated by vagotomy as critically as those treated by gastric resection. If, with time, it can be proved that patients with duodenal ulcer treated by vagotomy have permanent healing with a low incidence of recurrence and complications, it may be the operation of choice. In the meantime to be sure of curing a complicated gastric or duodenal ulcer, gastric resection is the procedure of choice.

References

1. Saltzstein, H. C., Sandweiss, D. J., Hammer, J. M. Hill, E. J., and Vandenberg, H. J., Jr.: Effect of vagotomy on Mann-Williamson Ulcers in dogs. Arch. Surg., 55:130-189, (Aug.) 1947.
2. Schoen, A. M., and Griwold, R. A.: The effect of vagotomy on human gastric functions. Ann. Surg., 126:655-708, (Nov.) 1947.

CHARLES E. REA, M.D.

CANCER CONTROL PROGRAM QUESTIONNAIRE

Three thousand eight hundred and eighty-one questionnaires concerning the reaction of the physicians of Minnesota to Cancer Control Programs of various types were mailed out recently and there was a 52.7 per cent return. Dr. N. O. Pearce of the Health Department is to be congratulated on the success of this enterprise. Accuracy was sacrificed somewhat for simplicity since the participants were asked if they would endorse the projects listed, and they did not have an opportunity to express neutrality or complete objection. The responses were tabulated according to their source: Twin Cities, Duluth, Rochester, cities with a continuation of courses on cancer for physicians with 25,000. The Cancer Committee of the Minnesota State Medical Association wishes to interpret the replies to this study.

There was an overwhelming response in favor of continuation of courses on cancer for physicians with tuition and expenses paid. The total of 85 per cent of those responding endorsed this project with a somewhat lesser percentage favoring the University as the site of these courses and a two-day duration of the course with both clinical demonstrations and lectures as the method of choice. One-day medical educational projects given in scattered local areas should be given a further trial.

Forty-nine and six tenths per cent endorsed a free correspondence consultation service on cancer cases for physicians. The Cancer Committee felt that this project should be instituted in the near future in co-operation with Dr. Carl Drake, editor of MINNESOTA MEDICINE. Further announcements may be in the offing.

The profession decidedly favored employing qualified physicians to talk on cancer to medical societies and hospital staffs, 63.9 per cent endorsing the project. This falls in the realm of the Speaker's Bureau Committee which already has a list of physicians available for this purpose. The Cancer Committee favors an honorarium of $50 to $100 and expenses for these speakers.

On the question, "Shall we employ cancer specialists to hold free cancer detection clinics in local hospitals, quarterly or other intervals with referral of cases to private physicians?" 40 per cent of the profession endorsed the project. Since employing "cancer specialists" is quite objectionable to many physicians, the Committee felt that this particular type of cancer detection clinic should not be promoted. However, in the light of the great success of the one-day cancer detection clinic held at Fergus Falls, these clinics should be held in any location where a local County Medical Society feels that they are indicated.

A total of 40.3 per cent endorsed the provision for cancer information centers. In the only community where these have been tried, Duluth, 61 per cent of the physicians endorsed the project. It was felt that physicians should conduct the information centers if county medical societies wished to promote this project for their communities.

There was a surprising 63.3 per cent favoring the promotion of more adequate cancer facilities and services to assist the practicing physician. This was broken down into surgical, x-ray, radium, pathologic and hospital services. There was no agreement as to where improvement was needed except in pathologic services, where 47.3 per cent endorsed an improvement in this field. It is to be pointed out to the profession that physicians specializing in pathologic diagnosis of biopsy material are in the private practices of medicine and have previously voted unanimously not to accept any money for this service for indigent cases. The establishment of a pathologist in smaller centers depends upon his earning power in that locale. Interference with the biopsy source of income would seriously interfere with this eventual and ideal development in medical practice in Minnesota as it already has in other states. It was agreed that the pathologists should concede to some form

of subsidy in the cases of indigent and near indigent patients since many additional biopsies would be taken by physicians if there was a method by which patients would not have to pay directly for this service.

The Cancer Committee felt that the present facilities for training public health nurses in the field of cancer were adequate since there was only a 38.3 per cent endorsement of continuation courses on cancer for public health nurses.

There were 59.9 per cent favoring the provision of talks and motion pictures on cancer for lay people. However, only 47 per cent endorsed wide distribution of printed matter to lay people. The Committee felt that the benefits of lay education on cancer far outweighed any theoretical injurious effects of the procedure.

X-RAY SURVEY

A program of chest x-raying that will extend into 1951 is now in full operation by the Minnesota Department of Health, under the supervision of Dr. Hilbert Mark, director of the Division of Tuberculosis.

The program involves the use of three mobile x-ray units. Many of the surveys cover entire counties. During 1948, one unit is being used to x-ray the population of Benton, Sibley, Polk, and Beltrami Counties, rural Stearns County, part of Winona County, and part of the city of St. Cloud; another is now completing the St. Cloud and Winona County surveys and will later be used for Dodge and Marshall Counties. This unit will also be used to x-ray the Indians of Red Lake and White Earth Reservations and Mahnomen.

The third unit started in January an x-ray survey of students in colleges of the state; also all inmates of state institutions. It is expected that these two surveys will be repeated each year. The same unit will be used later this year in Nicollet County and during the summer in Washington County. The survey of colleges and state institutions will be resumed next October.

Up to the end of 1947, a total of 214,326 persons had been x-rayed, in addition to those included in the Minneapolis, Saint Paul, and St. Louis County surveys. Chest x-ray surveys conducted by the State Department of Health have been completed in Blue Earth, Steele, Freeborn, McLeod, Isanti, Carlton, Morrison, Wadena, Todd, and Kittson Counties, and requests for surveys have come to the Department from sixty-one additional counties. Partial surveys have been done in Dakota County (West St. Paul and So. St. Paul), Crow Wing County (Brainerd, Crosby, Ironton, Deerwood, and Pequot Lakes), Washington County (St. Paul Park and Cottage Grove), Western Stearns County, Polk County (Crookston, Fertile, and East Grand Forks), and Norman County (Ada). A calendar of surveys for 1949, 1950, and 1951 is now being prepared.

Persons found by the surveys to have any pathological condition of the chest are referred to their own physicians for advice and treatment.

SILLIMAN'S VISIT TO MINNESOTA

Benjamin Silliman was in many ways a remarkable man, for he not only introduced the teaching of the laboratory sciences at Yale University (and through this example his influence spread to many other American colleges), but he was responsible for first promoting instruction at the graduate level. The Sheffield Scientific School, which he helped to found, became the first American graduate school; and Yale, through the Scientific School, granted the first Ph.D. degrees ever to be awarded in this country.*

The Sheffield Scientific School fostered the practical application of the sciences at a time when we were expanding our natural resources and were acutely in need of technically trained manpower. Mr. Joseph E. Sheffield of New Haven, who endowed the School, was responsible for pushing the Rock Island Railroad through to the Mississippi River, completing the road in 1854. In celebration of this event, Benjamin Silliman and a party of Mr. Sheffield's friends (some 700 of them) were given a free excursion from New York to Rock Island in private trains. The party then proceeded in a fleet of river boats up the Mississippi to Saint Paul. The following extracts from Silliman's diary describing the frontier village as it was then and his visit to the Falls of St. Anthony are most interesting. The day before had been spent on Lake Pepin.

June 8, 1854. Arrival at St. Pauls, Minnesota (2,000 miles above the Gulf of Mexico; 744 [above] St. Louis). After the repose of a quiet night we had hardly time to finish our breakfast before we espied St. Pauls, the capital of Minnesota.

As the town stands on a high bluff, it is conspicuous at a distance and makes a very handsome appearance. It was said at the time of our visit to contain 5 to 6 thousand inhabitants—now in 1862 doubtless many more. Large warehouses, several churches and a spacious and elegant capitol, half a mile from the town, would hardly permit one to believe that a man to whom we were introduced built the first house in 1849.

Our passengers were soon on shore and ranging about the town. We, Mrs. Silliman and myself, did not go to a hotel but regarded the steamer as our home. In the evening the Governor and citizens gave a reception to Ex-President Fillmore and to members of the excursion. Mr. Fillmore is reported to have made an excellent speech and Mr. Bancroft, the historian, a very good one. There was also a ball and those who attended spoke in high terms of the ceremonial. *We* were too much fatigued by an excursion to the falls to attend the public assemblies and were glad to pass our evening quietly in the *War Eagle* not now agitated by moving engines.

Excursion to the Falls of St. Anthony. On our landing we found carriages standing in readiness for us. In connexion with an agreeable party we occupied a stage with four horses. We rode 9 or 10 miles over good roads wide and hard and passed an extensive prairie—a splendid tract of land—the greater part of which was fenced and under successful cultivation. Cattle and horses were numerous and in this region they are large and of superior breed. The general aspect of the country was inviting altho' in the latitude of the northwest part of Lake Superior.

(Continued on Page 305)

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*Fulton, John F. and Thomson, Elizabeth H.: *Benjamin Silliman, 1769-1864, Pathfinder in American Science.* New York; Henry Schuman, Inc., 1947. xiv, 294 Pp., 14 pl.

MEDICAL ECONOMICS

Edited by the Committee on Medical Economics
of the
Minnesota State Medical Association
George Earl, M.D., Chairman

CONSEQUENCES OF END OF HEALTH PROGRAM FOR MIGRANTS FEARED

(The dissolution of the health service program for migrant agricultural workers may have serious consequences to the medical profession and the public-at-large. This is the opinion of physicians who have carefully studied the program just ended last December and the federal proposals for the care of foreign workers in the future. It is recommended that members of the medical profession keep themselves informed of developments, and to provide physicians with an opportunity to examine the facts, the following article has been prepared by Dr. J. A. McElligott and Mr. C. B. Hoff, medical director and executive director, respectively, of the Midwestern Agricultural Workers' Health Association, which has its headquarters in Milwaukee, Wisconsin.)

The Midwestern Agricultural Workers' Health Association was formed to give medical service to the indigent migrant agricultural workers who were ineligible for medical welfare services in the various states because they lacked residential qualifications. Implementing it was the U. S. Department of Agriculture which had federal funds for this service.

In the spring of 1943, a conference was called by Dr. Franklin S. Crockett in Chicago during the time the House of Delegates of the AMA was in session. At this informal gathering were representatives of the Farm Security Administration (U. S. Department of Agriculture) and doctors from all over the United States including Dr. W. A. Coventry of Minnesota. The government representatives explained that they wanted to form a non-profit corporation to provide health care for Jamaican workers who, by agreement between governments, were to receive free medical care while they were in the United States harvesting vitally needed crops. In this conference the organizational structure and policies of the proposed organization were shaped after full discussion by the group.

The association or corporation was to be patterned after similar associations which had rendered service to small segments of the migrant population in other regions of the United States. However, the finished fabric was strictly a Midwestern tailored job. In June, 1943, three physicians and three laymen were selected as incorporators and members of the policy making board of directors. One of the lay members of the board had agreed to serve until the Michigan State Medical Society delegated another physician as a board member. The association was incorporated under the laws of the state of Indiana and registered to operate in Minnesota, Iowa, Illinois, Wisconsin, Ohio, Michigan, Kansas, Nebraska, Missouri, Kentucky, and the Dakotas. Shortly afterward a grant of federal funds was made.

Ideas New to Midwest

As new as the idea of corporation disbursing federal funds through a board of four delegates of organized medicine and three laymen might have been to midwestern medicine, the techniques of providing services to a scattered floating population was newer. At the first meeting of the board, it was resolved that services were to be rendered by private practitioners and hospitals on a fee for service basis. Negotiations were to be started with each of the twelve medical societies and liaison maintained with them in order to embody the suggestions of organized medicine into the operating plans. The patient was to have free choice of physician when more than one was available in the rural areas. Although the association was to have a physician as medical director, he was not to intrude between patient and doctor. Also at the very first meeting, it was decided that, although government funds financed the association, and some government employes were on the board, the association was not to be used for the advancement of alien philosophies of medical practice. The board adopted a rather positive attitude against the hiring of physicians on a salary basis to maintain the services, be-

cause the agreements with the Jamaican government provided that the workers receive the same care as the American population of comparable status received. The board interpreted this to mean good medical care, not cheap medical care. It is imperative to make it clear that the board of directors was nobody's rubber stamp from the very beginning. As time passed it entered more and more into the operations of the association. The board hired an executive director who was provided an executive committee of the board for assistance in making emergency decisions between board meetings.

In the peak year of operations, the association employed about sixty full or part time persons, mostly nurses, to administer the program for the 22,000 eligible workers in the twelve states. In that area over 4,000 doctors and hospitals rendered service to the workers at a cost of about $1.50 a worker for each month of their seasonal stay in the Midwest. It appears at this time that the costs of administration will be somewhere between ten and twelve per cent. The costs compare favorably with the cost of identical services elsewhere in the United States for the same kind of workers, even though the MAWHA did not hold the physician and hospital to a definite schedule of fees or limit the amount of diagnostic or therapeutic work done for a patient. Through the state medical societies, the association asked that vendors of service give the association the benefit of local relief rates, and they did, although no one in the association slavishly adhered to the rule in checking accounts. Early in the first year's operations it was found that in no two states and in few localities of the same states were the problems the same or the administrative solutions identical.

Peak of 2,500 Migrants Reached

Minnesota had 2,500 workers, Jamaican and Mexican nationals, during its peak year. There were foreign workers in the state for six months of the year although the numbers did not remain constant from month to month. They worked mostly in the southern part of the state and in the extreme western part of the state. In the latter location they harvested grain, but the larger group was employed in the southern Minnesota canning areas. Within these areas, 324 Minnesota physicians or hospitals were paid $42,203.09 for service rendered to eligible workers. It should be stressed that these figures refer to government transported workers only, as the association did not generally provide care for the far more numerous domestic migrant workers.

Early in the program the supervising nurse concluded an agreement with the major canning companies that the plant industrial nurse could give nursing services to workers who were housed in the canning company camps. This service is familiar to a good many Minnesota physicians.

A good many people think of the migrant as a war-time phenomenon. This impression is strengthened because during the war the government entered into the recruitment and transportation of workers, and health services were given largely to such transported workers, while self-transported workers were not given service except as under very restricted circumstances. It is well to think of the foreign and government transported worker as a wartime substitute for the domestic worker or at least a reinforcement for him.

Government Ends Program

As of December 31, 1947, the government program for the recruitment and transportation of workers came to an end. As a result, all migrant indigent agricultural laborers and their families will receive no more health care from the government. Although the majority of them are non-residents of the state, local doctors, hospitals or welfare agencies will again be forced to assume the burden of caring for these people unless some legislation is enacted to lift the burden from state taxpayers and professional charity. Some think that the interstate worker is a federal charge.

During the past five years certain federal agencies were very active in studying conditions among the migrant workers. The Federal Interagency Committee on Migrant Labor published a 58-page bulletin last March. On page 29 of the bulletin, this paragraph appears: "The committee is of the opinion that financial and administrative responsibility for insuring adequate health and medical facilities for migrants should rest with public health authorities—state and federal—not with employers and their seasonal workers. It, therefore, recommends that a well operated health services program for migrants be provided and that federal grants-in-aid be made to health departments to assist them in the

development of such services. Removal by the states of residence requirements as a condition for such benefits is a prerequisite."

This recommendation, if enacted into law, puts the migrant worker into a privileged position, for it absolves the seasonal worker from financial responsibility for his health care. Secondly, this recommendation takes the worker out of the Department of Agriculture health program and puts the United States Public Health Service and the state health departments into the business of administering and financing a curative medical care program for American families. On pages 45-46 of the bulletin, suggested standards for health services for labor camp occupants are set forth. At the crucial center of this suggested setup is the so-called "clinic or health center" in each camp where over a hundred migrants were housed. The physician operating this center shall give preventive and curative services and treat all cases of illness which can be handled adequately with clinics on an ambulatory basis.

Step Toward Compulsion Feared

One need not be a hysterical alarmist to see in these recommendations a pilot program which could serve as an excellent training ground for administrators of a compulsory health program for the general population. The writers and others who served on the board of directors of the MAWHA gained familiarity with this pattern of medicine because USPHS administrators constantly urged MAWHA to turn over to health departments some of the work done by private physicians and to hire doctors on an hourly basis to give service on the camps. The board stuck to its guns. The MAWHA followed suggestions of the Minnesota State Medical Association. Service was rendered by private physicians on a fee for service basis.

Organized medicine has logical grounds on which to base its suspicions of "Washington planners." Federalization of migrant health as recommended in the above quotation is not the only solution for good health service to migrants. The non-profit organization such as the MAWHA in which organized medicine and the migrant each have delegated representation on the policy-making board of directors is more likely to give the migrant health services on par with those enjoyed by the local resident than federal or state medicine could give. MAWHA medicine was identical to care received by the average Minnesotan because Minnesota physicians gave the care in Minnesota private hospitals using Minnesota methods of practice without the intrusion of a federal or state employe between patient and doctor.

The MAWHA as a corporation still exists. In the near future Minnesota physicians might be called on for a decision. The only question will be: "Does Minnesota want federal and state medicine for its migrants or does Minnesota want to give its care through the non-profit organization that has been doing it for five years?"

MAWHA THANKS MINNESOTA DOCTORS

On February 9, the following letter was received at the State Office, addressed to the physician members of the Minnesota State Medical Association:

Gentlemen:

On behalf of the board of directors of the Midwestern Agricultural Workers' Health Association and its staff, I wish to thank the State Medical Association of Minnesota and its practitioner members who gave service to the foreign and domestic migrant laborers during the past five seasons.

The Congress of the United States has terminated the foreign labor program and our contract with the United States Government ends as of December 31, 1947, although the corporate entity of the MAWHA has been preserved.

Our board of directors, consisting of four doctor-delegates from Midwestern medical societies and three laymen, resolved to keep the corporation intact because we felt that a non-profit corporation of this kind has proved its ability to operate, with the assistance of organized medicine and its practitioners, a program of health care for migrant agricultural laborers economically and efficiently through the use of rural practitioners on a fee-for-service basis, with free choice to the patient in areas where a choice of doctors is available, and with regard to the ethics and scientific principles advocated by organized medicine.

Each year your state society has given me a report on the operation of the MAWHA within your state. These reports were helpful to the board of directors and the staff in planning methods of operation.

With the termination of our contract with the government the indigent migrant worker could very well become a subject of the charity of doctors and hospitals for, by lack of residential qualifications, he is ineligible for medical relief in the communities in which he tarries for a while in the harvest season. It is entirely possible, however, that some legislation will be enacted to relieve the smaller communities of the burden of caring for ineligible workers out of local taxpayers' funds.

The Midwestern Agricultural Workers' Health Association, by keeping its corporate identity can probably offer its facilities and service to government and organized medicine alike in any program for the emergency medical relief of the indigent, or near indigent, migratory agricultural worker in areas where his pay is insufficient to meet his needs.

Very truly yours,
F. S. Crockett, M.D., *President*
Board of Directors, MAWHA

SCHEELE SUCCEEDS PARRAN AS USPHS SURGEON GENERAL

On April 6, Dr. Leonard A. Scheele, present director of the National Cancer Institute, will become surgeon general of the United States Public Health Service, succeeding Dr. Parran.

A letter from the Washington Office of the Council on Medical Service of the American Medical Association gives a brief biographical sketch of Dr. Scheele.

Born in Fort Wayne, Indiana, July 25, 1907, Dr. Scheele was educated in Michigan, receiving his M.D. in 1934 from Wayne University in Detroit. He entered the Public Health Service almost at once. He held several field positions; did cancer control work and was transferred to civilian defense. Later he was assigned to the Army and served in Sicily, Italy and Germany. He received many decorations for his foreign service.

He returned to the National Cancer Institute in 1946 and was made director in 1947. He and his wife, who is a dentist, live in Bethesda near the Institute. They have three children.

According to the Washington Office, Dr. Scheele is an intense worker, probably partial to research. Their bulletin states that he has shown outstanding ability as an administrator and is thoroughly aware of the potentialities of his new position.

Parran Aware of Replacement

Dr. Parran knew he would not be reappointed, according to the *Washington Report on the Medical Sciences,* another periodic bulletin of medical news issued from Washington. In the February 16 report, some interesting background of the present situation is given.

It seems Dr. Parran would have liked to serve another four years, but because Federal Security Administrator Ewing likes to enunciate his own health policies and Dr. Parran is himself an independent thinker, reappointment seemed unlikely. Evidently, Ewing plans big things for the formulation of President Truman's national health program. The medical science report says it will be "extremely interesting" to see what Dr. Scheele will be able to accomplish within the pattern cut out by Ewing, since Ewing has given every evidence of desiring to be his own Surgeon General by forming health policies which have formerly been the function of the head of the USPHS.

Dr. Scheele, who is forty, will be the youngest Surgeon General in his country's history, it is reported. He hasn't much seniority in the list of commissioned officers in the health service; and it appears the Dr. Parran helped name his successor, whom he says is "one of the outstanding public health figures in this country," possessing "both personal and professional qualities to be a great surgeon general."

MINNESOTA STATE BOARD OF MEDICAL EXAMINERS

230 Lowry Medical Arts Building
Saint Paul, Minnesota

Julian F. DuBois, M.D., Secretary

Minneapolis Woman Placed on Two-year Probation Term for Criminal Abortion

Re. State of Minnesota vs. Elizabeth L. Libera

On February 13, 1948, Elizabeth L. Libera, thirty-two years of age, 3551 North 4th Street, Minneapolis, was sentenced by the Hon. Arthur W. Selover, Judge of the District Court of Hennepin County, to a term of not to exceed two years in the Women's Reformatory at Shakopee. Because of the fact that there was no evidence of other abortions, Judge Selover placed the defendant on probation for two years. Mrs. Libera had previously entered a plea of guilty on January 12, 1948, to an information charging her with the crime of abortion.

Mrs. Libera was arrested on December 21, 1947, following the hospitalization of a twenty-four-year-old unmarried Minneapolis woman suffering from the after effects of a criminal abortion. The defendant performed the abortion by means of a catheter and was paid the sum of $200 for her services. The defendant stated to Judge Selover that she was married and the mother of three children. She further stated that she had never performed any other abortions except one on herself.

Minneapolis Woman Must Serve One Year for Criminal Abortion

Re. State of Minnesota vs. Lola Wilkie

On February 13, 1948, Lola Wilkie, fifty-nine years of age, 717 19th Avenue South, Minneapolis, was sentenced by the Hon. Frank E. Reed, Judge of the District Court of Hennepin County, to a term of two to eight years in the Women's Reformatory at Shakopee. The Court stayed the sentence and placed the defendant on probation for five years; Mrs. Wilkie, however, must serve the first year of the sentence in the Minneapolis Women's Detention Home. The defendant had previously pleaded guilty on December 1, 1947, to an information charging her with the crime of abortion.

Mrs. Wilkie was arrested on a complaint issued October 27, 1947, charging her with performing an abortion on an unmarried Minneapolis girl on September 7, 1947. The abortion was performed by the defendant at the home of the patient by means of a catheter. The patient became ill and was subsequently hospitalized at a Minneapolis hospital. The defendant Wilkie has a long

criminal record dating back to 1928. On October 3 of that year the defendant entered a plea of guilty in the District Court of Hennepin County to an information charging her with the crime of receiving stolen property and was sentenced to serve ninety days in the Minneapolis Workhouse. On May 22, 1945, the defendant was sentenced in the District Court of Hennepin County to serve one year in the Women's Reformatory at Shakopee following her plea of guilty on April 20, 1945, to an information charging her with the crime of abortion. The defendant served that sentence. On February 28, 1941, the defendant was indicted by the grand jury of Hennepin County for the crime of abortion, but the warrant of arrest was not served on her due to the fact that the sheriff's office was unable to locate the defendant. However, that indictment was called to the attention of the Court at the time Mrs. Wilkie was sentenced on May 22, 1945.

The defendant stated to the Court that she was born on July 7, 1888, at Necedah, Wisconsin. She stated that she became involved in doing abortions many years ago when she took care of abortion patients for a chiropractor, now deceased.

Former Masseuse Sentenced to Ramsey County Jail for Criminal Abortion

Re. State of Minnesota vs. Pauline L. Schultz

On February 16, 1948, Pauline L. Schultz, seventy-four years of age, 656 North Lexington Avenue, Saint Paul, Minnesota, was sentenced by the Hon. Gustavus Loevinger, Judge of the District Court, to a term of one year in the Ramsey County Jail. Mrs. Schultz had entered a plea of guilty on February 2, 1948, to an information charging her with the crime of abortion. Judge Loevinger stated to the defendant at the time sentence was imposed, that notwithstanding her age and the condition of her health, the defendant would not be placed on probation but would be required to serve her sentence. The Court pointed out that the investigation made by the probation officer disclosed that Mrs. Schultz had been doing abortions over a long period of time.

Mrs. Schultz was arrested on December 13, 1947, by Saint Paul Police officers following an anonymous telephone call to the Police Department advising them that a woman was having an abortion performed by the defendant Schultz. The police officers placed Mrs. Schultz' home in surveillance and discovered the abortion patient entering and leaving Mrs. Schultz' place. The patient was removed to Ancker Hospital where she disclosed that Mrs. Schultz inserted a catheter for the purpose of producing a miscarriage. The patient stated that she paid Mrs. Schultz $150 for her services. When police officers arrested Mrs. Schultz, they found $6,350 in currency in Mrs. Schultz' home. A statement was taken from Mrs. Schultz in which she admitted performing the abortion in the instant case, and also that she had performed five or six other abortions during 1947.

Mrs. Schultz, prior to 1931, was licensed as a masseuse. She also had represented herself to the public at various times as a chiropractor and as a naturopathic physician. Mrs. Schultz was acquitted by a jury in the District Court of Ramsey County in April, 1928, of the charge of abortion. In May, 1931, Mrs. Schultz was indicted by the grand jury of Ramsey County for the crime of manslaughter in the first degree, following an alleged criminal abortion. That indictment was nolled by the Court on October 26, 1931, because of the lack of sufficient evidence to connect the defendant with the crime and partially because of the failure of a Saint Paul physician to co-operate with the State in the prosecution.

Saint Paul Woman Sentenced to One-year Jail Term for Criminal Abortion

Re. State of Minnesota vs. Bessie Moulton

On February 20, 1948, Bessie Moulton, fifty-eight years of age, 188 E. 15th Street, Saint Paul, Minnesota, was sentenced by the Hon. Gustavus Loevinger, Judge of the Ramsey County District Court, to a term of one year in the County Jail. Mrs. Moulton, on January 30, 1948, had entered a plea of guilty to an information charging her with the crime of abortion. The matter was passed at that time to permit the case to be investigated by the probation officer. Following that investigation, Judge Loevinger advised the defendant that she would have to serve her sentence.

Mrs. Moulton was arrested on January 17, 1948, by Saint Paul police officers following an investigation made by the Minnesota State Board of Medical Examiners, the Minneapolis Police Department and Saint Paul police officers. That investigation disclosed that a 22-year-old Minneapolis girl had been aborted by the defendant. Following the abortion, the patient became ill and was removed to a Minneapolis hospital. The investigation further disclosed that Mrs. Moulton was paid $100 for her services and that she had performed numerous other abortions over a period of several years.

Mrs. Moulton was born at Oxford, Wisconsin, and lived in Detroit, Michigan, prior to coming to Saint Paul twenty years ago. Mrs. Moulton admitted a previous conviction for a violation of the Federal liquor laws during the days of prohibition, for which offense Mrs. Moulton served eight months in the Ramsey County Jail. Mrs. Moulton stated that she performed a few abortions in Detroit before moving to Saint Paul and that she had done some abortions in Minneapolis as well as in Saint Paul.

TREATMENT OF CONGESTIVE HEART FAILURE

(Continued from Page 266)

probably not necessary) was followed by complete disappearance of his anasarca.

Between May and December of 1947 this man was kept edema free without use of diuretics, and only returned monthly for observation. No decrease in size of his heart has been demonstrated. Vital capacity is still definitely reduced, but by following his diet rigidly, he is able to do light work and is now self-supporting.

Conclusion

Digitalis is still the most important single drug in the management of heart failure.

Diuretics relieve those congestive symptoms which may remain after digitalization.

In severe dropsy the Schemm regime is very much worthwhile.

References

1. La Due, J. S., and Fahr, G.: The effect of the intravenous administration of lanatoside C upon the output, diastolic volume and mechanical efficiency of the failing human heart. Am. Heart J., 25:344, 1943.
2. Movitt, W. R.: Digitalis and other cardiotonic drugs. Oxford University Press, 1946.
3. Schemm, F. R.: A high fluid intake in the management of edema, especially cardiac edema. I. The details and basis of the regime. Ann. Int. Med., 17:952-956, (Dec.) 1942; II. Clinical observation and data. Ann. Int. Med., 21:937-976, (Dec.) 1944.

Minnesota Academy of Medicine

Meeting of November 12, 1947

The regular monthly meeting of the Minnesota Academy of Medicine was held at the Town and Country Club, Saint Paul, on Wednesday evening, November 12, 1947. Dinner was served at 7 p.m., and the meeting was called to order at 8 p.m. by the president, Dr. E. M. Hammes.

There were fifty-four members and three guests present.

Minutes of the October meeting were read and approved.

Dr. Harold S. Diehl read the following Memorial to Dr. Robert Green and a motion was carried that this be spread on the records of the Academy and a copy sent to the family.

ROBERT G. GREEN, 1895-1947

Thirty years ago, while serving as an instructor in the Department of Bacteriology, I had as one of my assignments the teaching of a course in general bacteriology to students from the College of Agriculture. I well remember the keen interest, the enthusiasm and the outstanding performance of a student in that class by the name of Robert Green.

Last year I received from this former student a bound volume of some fifty reprints of selected scientific papers with the following inscription on the flyleaf: "It is just thirty years ago that a student asked you in the hall if you thought that it would be worth while for him to try to do a little research in bacteriology. This book is a record of what has happened so far as a result of your encouragement." It was signed Robert G. Green.

Shortly after accepting this volume, it was my privilege to recommend the appointment of Dr. Green as head of the Department of Bacteriology of the University of Minnesota. Unfortunately he served in this capacity for only a few months before his sudden death about two months ago. But even in this brief period of time his vision, his enthusiasm and his inspiring leadership had given new life to a department which only recently had suffered the loss of such distinguished scientists as Dr. Arthur Henrici and Dr. Winford Larson.

In scientific work one rarely finds an individual of the originality of mind and the research genius which Dr. Green possessed. Over the years, Dr. Green's major scientific work was in the field of viruses, but his 200 scientific papers cover a variety of subjects. Some of his early papers were on the physical chemistry of bacteria. Distemper and canine encephalitis claimed his major interest for several years, with the development of an effective vaccine against each of them. Then he described and discovered the cause of a new disease which he called Chastek paralysis. To me it has always seemed that Dr. Green's studies of tularemia and other diseases of the wildlife population are monumental contributions to our knowledge not only of these diseases but also of the course of epidemic diseases under natural conditions.

During the past few years, Dr. Green had been devoting his research interests primarily to cancer and to infantile paralysis. The members of this Academy will remember his presentation here last winter of his hypothesis as to the nature of cancer and of the investigative work which seemed to lend support to this theory. Sortly before his death Dr. Green brought to my office a series of test tubes showing precipitin tests which he believed could lead to a serological diagnosis of cancer and even to possible immunization against cancer. His work on infantile paralysis was directed toward the development of a vaccine against this disease.

To have the life of such a brilliant scientist cut off at the very peak of his career is an irreparable loss. But his achievements, which far exceeded those of most investigators in a complete lifetime, remain to serve as the stepping stones upon which further progress along these pathways will be made. And the ideas which he has planted in the minds of his students may well blossom forth into greater accomplishments even than he envisioned. Truly, it has been a privilege to have had Dr. Green as one of our group.

HAROLD S. DIEHL, M.D.

September 8, 1947

The following were elected as candidates for active membership in the Minneapolis list: Dr. Malcolm Hanson, Dr. Carl Laymon, and Dr. H. M. N. Wynne. Dr. Donald Creevy's name was transferred from the Minneapolis list to the University Faculty list.

The scientific program followed. Dr. R. M. Wilder, of the Mayo Clinic, Rochester, Minnesota, read his inaugural thesis.

SAMPLING THE NUTRITION OF MINNESOTA CHILDREN

RUSSELL M. WILDER, M.D.
Rochester, Minnesota

The achievement represented by the synthesis of a number of the vitamins is one of the many brilliant contributions to scientific medicine to which we have been witness in this century. However, the commercialization of these products has involved exaggeration and misstatement so distasteful that some scientists in medicine have acquired an actual antipathy to vitamins. Food consumption studies, especially those conducted in 1938 by the Bureau of Home Economics of the United States Department of Agriculture,[5] suggested that a

From the Division of Medicine, Mayo Clinic, Rochester, Minnesota.

very large proportion of the people in this country were ill fed, and prompted a campaign to improve nutrition. Some of us believe that this campaign contributed to the waging of the war. It also added fuel, however, to feed the flame of vitamin exploitation, and in consequence of all this emphasis on vitamins a wide rift has developed between those who do and those who don't believe that vitamin deficiency is prevalent in this country. The divergence of expressions of opinion on this subject, but especially the exploitation of synthetic vitamins, has been harmful to the program to improve the public health through providing better diets. An English speaker once remarked: "The sincere friends of freedom [he could have had the same to say about the friends of better diets] have been few, and their triumphs have been due to auxiliaries whose objectives often differed from their own; and such association, which is always dangerous, has sometimes been disastrous by giving opponents just ground for opposition."

There must be a middle ground, and of course there is, one to which the conscientious student of nutrition has adhered despite the overemphasis of the vitamins on the one hand and the deaf ears of skeptics on the other. My personal attempt to pursue this middle way has been a pilgrim's progress.

Like many a physician I had been unwilling to accept estimates of the incidence of malnutrition which were based on food consumption surveys. Few patients coming to the Mayo Clinic appear to be malnourished, and for almost every case of malnutrition some reason other than the diet appears to be the explanation. Especially disturbing to me were reports some years ago that diabetes mellitus could be caused by deficiency of thiamine. I put this to the test and was almost gleeful when it could be shown that varying the intake of thiamine of severely diabetic patients was without effect on requirements for insulin. This study, made by Doctors K. A. Smith and H. L. Mason,[4] led to further investigation of thiamine deficiency. The later studies were begun by Dr. K. A. Smith, but were carried further with great elaboration by Dr. Ray D. Williams and associates.[7-11] The results upset my earlier complacency, for it was demonstrated that a thiamine intake no smaller than what the food consumption studies showed to be the thiamine content of many diets could produce a metabolic abnormality in persons who had been normal metabolically. When glucose was given to these persons, intermediates of glucose oxidation accumulated in the blood. Although lactic and pyruvic acids are found in normal blood, the amounts of them rose to abnormal levels when glucose was administered. In some persons this abnormality was accompanied by an increase in the sugar of the blood and some glycosuria. This was diabetes of a kind, but not diabetes mellitus. It was correctable by giving thiamine although not by giving insulin.

Associated with this metabolic abnormality were some psychologic and neurologic disturbances that were nonspecific and hence unimportant diagnostically, and yet were quite disabling.[6] These disabilities, like the metabolic defect, developed in the periods of thiamine deprivation but disappeared when the thiamine content of the diet was increased to levels now considered to be adequate. The studies referred to were begun in April, 1939. In that same year riboflavin deprivation was reported[3] to have caused thinning and fissuring of the epithelium of the lips (cheilosis), reddening and cracking at the angles of the mouth (angular stomatitis), a type of seborrhea in the creases at the sides of the nose (dyssebacia), congestion of the circumcorneal plexus of the conjunctiva, reddening of the tongue with changes of the papillae of the tongue, and other tissue lesions. These objective abnormalities, like the metabolic defect produced by deficiency of thiamine, were accompanied by the development of subjective disabilities, with recovery when riboflavin was restored. Likewise, at about this time, nicotinic acid, now called niacin, was found by Elvehjem[2] to be specific for the treatment of black tongue, the disease of dogs analogous to human pellagra. Niacin proved equally effective in the treatment of the lesions of the skin and tongue of patients with pellagra. Also niacin, riboflavin and thiamine, given together, in therapeutic trials were shown in several clinics to help relieve other signs and symptoms presented by persons who had been diagnosed for years as suffering either with pellagra or with pellagra without the photosensitive lesions of the neck and hands characteristic of pellagra—so-called pellagra sine pellagra.

With these discoveries clamoring for attention and with war around the corner and threatening to worsen the quality of the food supply, it would have been the height of folly in 1940 and 1941 to fail to take a stand for improvement of the nation's diet; improvement especially with respect to the vitamins which the food consumption surveys showed to be supplied in very limited amounts by many diets. The campaign started with the backing of a committee of the National Research Council composed of physicians, biochemists, physiologists and others who had special training in this field. The Food and Nutrition Board, as the committee came later to be called, was largely instrumental in securing, among other things, improvement of white flour and bread through their enrichment, increased consumption of milk, in-plant feeding arrangements for workers in war industries, and some degree of differential distribution of the food supplies.

The small part I had to play in these activities of the Food and Nutrition Board was accomplished, I must admit, with considerable uncertainty about the extent of the problem with which we had to deal. How many people really needed such attention to their diets? The Board established certain standards; we called them recommended dietary allowances for calories, protein, iron, calcium and each of several vitamins. The allowances admittedly were something more than minimal requirements. They were intended as a goal which if attained would assure that all would be well fed. It was recognized in this that individuals differ in their needs and that a minimal requirement for one would represent inadequacy for another. Now the food consumption surveys showed that many diets fell below the allowances recommended, but it was not known that this discrepancy was actually reflected in extensive failure of nutrition. Few medical surveys of nutritional

status had been made; indeed, no agreement had been reached as to what could be accepted as criteria of malnutrition.

Because of this dilemma I was very pleased to be invited to join a medical mission to study and evaluate nutritional conditions in Newfoundland. To judge from all accounts available, that was a country which undoubtedly was ill fed. Actual beriberi, actual scurvy and night blindness had been reported as occurring not infrequently in its inhabitants. What would be the incidence there of the several tissue lesions reputed to be characteristic of less severe deficiencies? The medical survey made in Newfoundland has been reported.[1] It revealed a very high incidence of the tissue lesions looked for. Unusually satisfactory colored illustrations of many of these lesions are contained in that report, together with a more complete description of the lesions than is necessary here. The survey further showed a large proportion of the population to be suffering with those vague disabilities which had been encountered in pellagra and in subjects who had been deprived experimentally of thiamine and riboflavin. The major errors in the diets of these people were deficiencies of vitamins, and I returned from Newfoundland convinced that vitamin allowances as low as those obtaining there were decidedly unhealthful. I still remained uncertain as to whether many persons in our country were similarly affected, especially in regions such as Minnesota where supplies of milk, meat, greens and citrus fruits are more abundant. I therefore welcomed a later opportunity to study groups of children in this state and to compare the incidence of tissue lesions found in them with the incidence of the lesions found in Newfoundland.

Surveys in Minnesota

The Minnesota study involved examining grade school children in each of three communities: the first the White Earth Indian Reservation, the second a rural area of Wabasha County in southeastern Minnesota, the third a district of Rochester inhabited by a population which included many of the families of my colleagues of the Mayo Clinic. In Newfoundland, vitamin assays of the blood had been obtained. The techniques for these were not available in the Minnesota study, and in any case such assays provide at most an index of the adequacy of the recent diet. Instead, in Minnesota we had food consumption data acquired by questioning the children. In Newfoundland 846 persons of all ages had been examined. Of them 402 were children of grade school ages, 193 boys and 209 girls. They alone are taken here for comparison with the Minnesota children. The Newfoundland survey was made in August, 1944. The distribution by locality of the Minnesota children, the sex in each of the three groups and the month of the year in which they were examined were as follows:

White Earth Indian Reservation, thirty-seven boys, fifty-two girls, examined in September, 1945.

Wabasha County, fifty-three boys, thirty-six girls, examined in December, 1945.

Rochester, fifty-one boys, thirty-eight girls, examined in January, 1946.

TABLE I. FOOD SUPPLY OF NEWFOUNDLAND PER CAPITA DAILY NUTRIENTS

Nutrient	Recommended Allowance*	Newfoundland Consumption	
		Quantity	Recommended Allowances Per Cent
Calories	2,544	2,997	115
Protein	66.1 gm.	88.4 gm.	134
Iron	11.8 mg.	9.5 mg.	80
Calcium	960 mg.	415 mg.	43
Vitamin A	4,590 U.S.P. units	1,443 U.S.P. units	31
Ascorbic acid	71.3 mg.	20 mg.	35
Thiamine	1.20 mg.	0.90 mg.	75
Riboflavin	1.60 mg.	1.03 mg.	65
Niacin	12.0 mg.	15.0 mg.	125

*Revised 1945; weighted allowances per capita.

The children were taken without selection and in each group were fairly equally distributed between the ages six to fourteen years.

Food Consumption Data

Newfoundland.—The major part of the food supply of Newfoundland was imported. The local food production comprised a very small amount of meat, eggs and milk, a large catch of fish, mainly cod which were eaten dried, and a small yield of garden products, consisting for the most part of potatoes, cabbages and turnips. From this data we could estimate that the caloric allowance was adequate, that the protein allowance was adequate, but that the average diet was far below the recommended allowances with respect to calcium and the vitamins (Table I).

Some doubt attaches to the figures given for the adequacy of niacin. In diets lacking milk and meat, except for the dry codfish which constituted the principal source of animal protein in Newfoundland, the requirement for niacin may be considerably higher than that which is called for in the recommended dietary allowances.

The reliability of these estimates was supported by the finding of high values for serum protein and reasonably good values for blood hemoglobin in all but a very small percentage of the 370 persons whose blood was examined, and by low blood values for ascorbic acid, vitamin A and riboflavin in more than half the persons. Small excretions of thiamine in the urine suggested that the intake of thiamine was less than adequate in 40 per cent of the population.

White Earth.—The dietary habits of the children on the Indian Reservation were studied by Miss Irene Netz, nutritionist of the State Relief Agency. The contribution to the total calories made by flour, sugar and fat was very large, and although the consumption of potatoes was also large, that of meat and of green or yellow vegetables and milk was small. The large majority of the children received a lunch at school, but even so, the average intake, although probably superior to that in Newfoundland, was certainly inadequate in several nutrients. The diets appeared to be satisfactory with respect to calories, less so with respect to animal protein, but definitely low in calcium and low in vitamins.

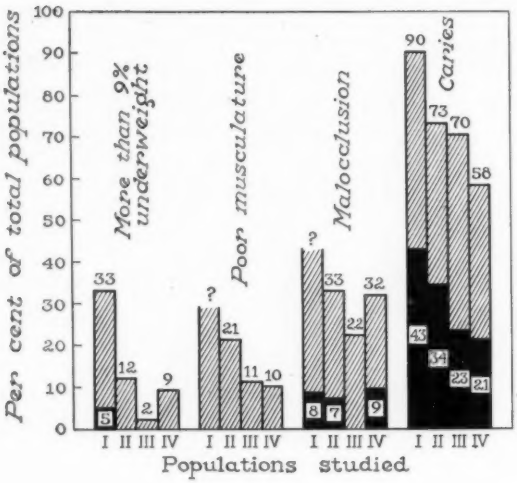


Fig. 1. Incidence of abnormalities observed in children of (I) Newfoundland, (II) White Earth, (III) Wabasha County and (IV) Rochester. Solid black indicates incidence of lesions of severity.

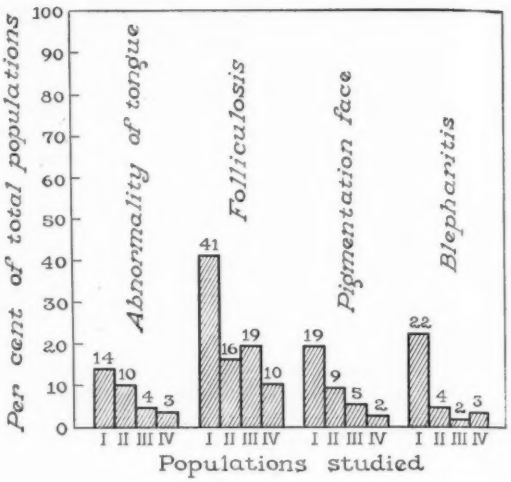


Fig. 2. Incidence of abnormalities observed in children of (I) Newfoundland, (II) White Earth, (III) Wabasha County and (IV) Rochester.

Wabasha County.—The diets of the children in the Wabasha County schools was regarded by Miss Netz as fairly typical for the children of southeastern rural Minnesota. A tenth of the children used no milk, a fourth used less than one serving daily of meat, fish or poultry, a half used no citrus fruit and only 60 per cent obtained a satisfactory amount of fresh vegetables. Bread, sugar and sweetened foods contributed excessively to the total calories. School meals had not been served. The diets of many of these children, although ample with respect to calories and protein, provided considerably less than the recommended allowances of calcium and the vitamins.

Rochester.—The diets of the Rochester children were certainly superior on the whole to those of the children of rural Wabasha County. Nevertheless, many of these diets could have been improved, and about 10 per cent were clearly less than what is recommended with respect to fruits, vegetables and milk. School meals were not provided.

Here are four groups of children for comparison. In every group the diets are adequate with respect to calories and probably with few exceptions adequate with respect to protein and iron. The difference between the diets of the groups is in respect to calcium and the vitamins provided, with the incidence of inadequate diets unquestionably greatest in Newfoundland, least in Rochester.

Findings on Examination

The examination of the children was limited in each instance to measurement of height and weight, to palpation of the muscle and inspection of the skin of the arms and legs and to inspection of the face, the scalp, the conjunctiva, the lips, the gums, the teeth and the tongue. No instruments were used other than a hand slit lamp, a dental probe with a flattened tip and a tuning fork.

Height.—There were no striking differences in stature. The heights even of the children in Newfoundland, where the incidence of poor diets unquestionably was highest, showed very close conformance to the Baldwin-Wood standards for children of the ages represented. Deficiencies of calcium and vitamins of the degrees encountered in these populations are apparently without effect on skeletal growth, this being strikingly in contrast to what is regularly reported from regions where protein and calories are lacking.

Weight.—Body weights for age and height differed strikingly. The incidence of children 10 or more per cent below the average standard weight for height and age was 33 per cent in Newfoundland, 12.4 per cent in White Earth, 2 per cent in Wabasha County and 9 per cent in Rochester (Fig. 1).

Poor Musculature.—Poorly developed musculature was conspicuous in the majority of the children of the Newfoundland group. Among the White Earth children poor musculature was observed in 21 per cent, whereas in Wabasha County and Rochester the incidence was 11 per cent and 10 per cent, respectively (Fig. 1).

Malocclusion of the Teeth.—No record was made of the incidence of malocclusion of the teeth in Newfoundland. It is my recollection that it was very high. The incidence of this abnormality in White Earth, Wabasha County and Rochester was 33, 22 and 32 per cent, respectively (Fig. 1).

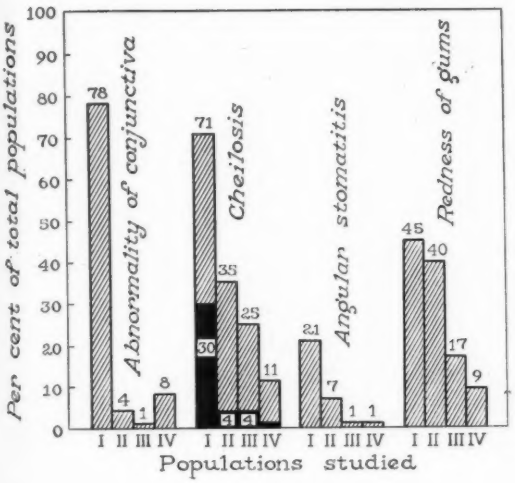


Fig. 3. Incidence of abnormalities observed in children of (I) Newfoundland, (II) White Earth, (III) Wabasha County and (IV) Rochester. Solid black indicates incidence of lesions of severity.

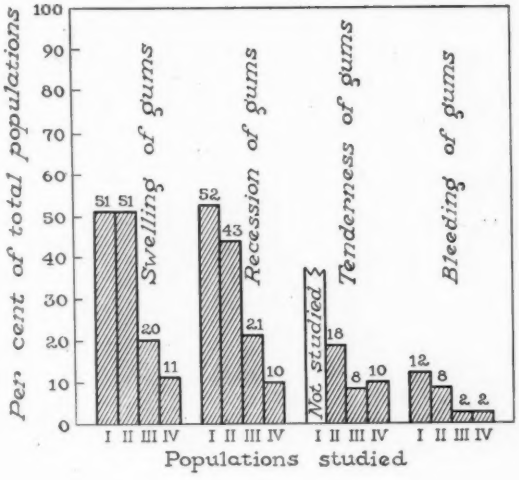


Fig. 4. Incidence of abnormalities observed in children of (I) Newfoundland, (II) White Earth, (III) Wabasha County and (IV) Rochester.

Dental Caries.—The incidence of dental caries of all degrees was 90 per cent in Newfoundland, 73 per cent in White Earth, 70 per cent in Wabasha County and 58 per cent in Rochester. The incidence of caries affecting four or more teeth was 43 per cent in Newfoundland, 34 per cent in White Earth, 23 per cent in Wabasha County and 21 per cent in Rochester (Fig. 1).

Folliculosis of the Skin of the Arms and Legs.—The incidence of the lesion of the skin variously designated as permanent gooseflesh, or folliculosis, or keratosis pilaris was 41 per cent in Newfoundland, 16 per cent at White Earth, 12 per cent in Wabasha County and 10 per cent in Rochester. It is difficult to ascribe this fourfold difference to heredity. The lesion is more conspicuous in the winter season, but the survey in Newfoundland was made in August and that in Rochester in January (Fig. 2).

Pigmentation of the Face.—This abnormality is encountered in caloric deprivation. It also is observed in deficiencies of vitamins. The caloric supplies were adequate in these children and yet the incidence of suborbital and circumoral pigmentation was 19 per cent in Newfoundland, 9 per cent in White Earth, 5 per cent in Wabasha County and 2 per cent in Rochester (Fig. 2).

Blepharitis.—Swelling and redness of the eyelids was noted in 22 per cent of the Newfoundland children. The incidence of this lesion was inconspicuous in all three groups of Minnesota children (Fig. 2).

Abnormality of the Tongue.—The incidence of increased redness of the tongue with various degrees of abnormality of its papillae was 14 per cent in Newfoundland, 10 per cent in White Earth, 4 per cent in Wabasha County and 3 per cent in Rochester (Fig. 2).

Conjunctival Abnormality.—The incidence of loss of luster and thickening of the conjunctiva was very high in Newfoundland, but low in all three of the groups of Minnesota children (Fig. 3).

Cheilosis.—Reddening, thinning, scaling and chapping of the epithelium of the lips was present in 71 per cent of the Newfoundland children and in 35 per cent of the children at White Earth. The incidence in Wabasha County and Rochester was 25 per cent and 11 per cent, respectively (Fig. 3).

Angular Stomatitis.—Various combinations of erythema and open fissuring at the angles of the mouth have been observed when deficiency of riboflavin was severe. Such lesions appeared in 21 per cent of the children in Newfoundland, in 7 per cent of those at White Earth and in 1 per cent of those in Wabasha County and Rochester (Fig. 3).

Gingivitis.—Redness, swelling and recession of the gums with or without unusual tenderness or bleeding was noted in about half of all the children in Newfoundland and White Earth, in about a fifth of the children of Wabasha County and in a tenth of those in Rochester (Fig. 3 and Fig. 4).

Concluding Comments

Several other abnormalities were observed in these several groups of children, but the point of interest is that the incidence of many of the tissue lesions mentioned descends progressively from Newfoundland to Rochester in inverse correlation to the incidence of poor diets. The fact is evidence of the strongest kind for the validity of considering these lesions to be signs or stigmas of inadequate nutrition. No one of them is

sufficiently specific to be conclusive evidence of nutritional deficiency and therefore none of them alone is diagnostic when applied to the examination of an individual. Applied to patients in a hospital, no one of them is very helpful as a measure of the adequacy of the diet, because among the sick many other abnormalities may affect nutrition. Applied, however, to groups or samples of a "nonsick" population, they do have meaning as an index of the adequacy of the diet. This may be accepted as a conclusion.

The incidence of several of the lesions mentioned was low in rural Wabasha County and very low in urban Rochester. However, the finding of an incidence for folliculosis, cheilosis and gingivitis of 20 to 25 per cent in Wabasha County and 10 per cent in Rochester, with poor musculature noted in approximately the same percentage of these children, leaves little ground for complacency about the adequacy of the diets of many of our Minnesota children; for such lesions, although relatively harmless in themselves, are accompanied not uncommonly, in Minnesota as in Newfoundland, by depression of the vigor of the mind and body, which represents depression of the quality of life.

It is not to be inferred from these conclusions that the problem can be solved by administering synthetic vitamins. Such products have a place in therapeutics. They also may be used with great advantage to improve the quality of certain foods, notably white bread. The great need, however, is for improving eating habits, which implies more emphasis on protective foods, adequate consumption of milk, eggs, meat, green and yellow vegetables, tomatoes and citrus fruits. The most effective way to accomplish such improvement is with school meals. The food habits of adults are fixed and difficult to change, and the results obtained by adult education have been discouraging. Unfortunately, the school lunch program is progressing much too slowly. In many schools no meals are served, and in schools where school lunches are established, the food selection is not always what it ought to be. If the school meal could provide not less than half the recommended allowances of protein, calcium, iron and the vitamins as a supplement to what the child obtained at home, and if the serving of each meal were made an occasion for demonstrating good food selection, we would witness very soon the end of malnutrition. For not only would the child be benefited, but the lesson and the habits formed would be carried to the homes these children soon will set up for themselves.

References

1. Adamson, J. D.; Jolliffe, N.; Kruse, H. D.; Lowry, O. H.; Moore, P. E.; Platt, B. S.; Sebrell, W. H.; Tice, J. W.; Tisdall, F. F., and Wilder, R. M.: Medical survey of nutrition in Newfoundland. Canad. M. A. J., 52:227-250, (Mar.) 1945.
2. Elvehjem, C. A.: Relation of nicotinic acid to pellagra. Physiol. Rev., 20:249-271, (Apr.) 1940.
3. Sebrell, W. H., and Butler, R. E.: Riboflavin deficiency in man (ariboflavinosis). Pub. Health Rep., 54:2121-2131, (Dec. 1) 1939.
4. Smith, K. A., and Mason, H. L.: Thiamine and diabetes mellitus. Proc. Staff Meet., Mayo Clin., 15:529-535, (Aug. 21) 1940.
5. Stiebeling, H. K., and Phipard, E. F.: Diets of families of employed wage earners and clerical workers in cities. U. S. Dept. Agr., Circ. 507, (Jan.) 1939.
6. Wilder, R. M.: Role of nutritional deficiency in nervous and mental disease; symptoms and signs of thiamine deficiency. A. Research Nerv. & Ment. Dis., Proc. (1941), 22:101-112, 1943.
7. Wilder, R. M.: Thiamine deficiency. M. Clin. North America, 27:409-418, (Mar.) 1943.
8. Williams, R. D.; Mason, H. L.; Power, M. H., and Wilder, R. M.: Induced thiamine (vitamin B_1) deficiency in man; relation of depletion of thiamine to development of biochemical defect and of polyneuropathy. Arch. Int. Med., 71:38-53, (Jan.) 1943.
9. Williams, R. D.; Mason, H. L.; Smith, B. F., and Wilder, R. M.: Induced thiamine (vitamin B_1) deficiency and the thiamine requirement of man; further observations. Arch. Int. Med., 69:721-738, (May) 1942.
10. Williams, R. D.; Mason, H. L., and Wilder, R. M.: The minimum daily requirement of thiamine of man. J. Nutrition, 25:71-97, (Jan.) 1943.
11. Williams, R. D.; Mason, H. L.; Wilder, R. M., and Smith, B. F.: Observations on induced thiamine (vitamin B_1) deficiency in man. Arch. Int. Med., 66:785-799, (Oct.) 1940.

Discussion

DR. E. F. ROBB, Minneapolis: Children in Minnesota are probably more fortunate than children in any other state. Here, we do have an abundance of milk and eggs. It would be interesting to see how statistics on children in other parts of the country would compare with the statistics Dr. Wilder has given us tonight.

We all know that our boys are much larger than we are, and for this there may be an explanation. Many of us had little milk, oranges, et cetera, as youngsters. Oranges were largely a special treat at Christmas time.

Last fall a number of pediatricians were here from all over the world and I had an interesting conversation with one from Holland. He is the father of three children, and he stated that during the German occupation of Holland his children remained quite well, although they did not grow to any appreciable extent. He felt that since they had an ample supply of synthetic vitamins, their health had remained good, even though their caloric intake was insufficient to promote growth. There is no doubt that we would need fewer synthetic vitamins if we could be sure that everyone had proper diets. Since this is a very difficult goal to attain, it seems wise to continue the use of the various vitamin products that are commonly used.

I would like to have Dr. Wilder tell us a bit more about the cases he saw with bleeding gums. It is my impression that large doses of vitamin C are very helpful in cases of stomatitis and gingivitis. His observations on dental caries are also of great interest and may force us to change our ideas concerning this condition. All in all, I am sure that Dr. Wilder has given us a great deal to think about and that all of us have enjoyed this paper very much indeed.

DR. R. T. LA VAKE, Minneapolis: Were any of these children put on vitamins and did you see any change in their condition?

DR. S. MARX WHITE, Minneapolis: I would like to know whether Dr. Wilder has any information or data he could supplement this with, as to our modern processing of foods—freezing, storage and canning—and whether such processing is known to play any part in deficiencies such as our own in Minnesota?

DR. J. A. LEPAK, St. Paul: Dr. Wilder has given us an excellent description of the lesions caused by vitamin deficiencies. The indiscriminate prescription of vitamins is unwise, I suppose, not only because it largely exploits the public and enriches those who produce them, but also because they may produce deleterious effects if taken in excessive dosage. I would like to ask Dr. Wilder if he has any data on hand to show the effects of overdosage in vitamins A and D, riboflavin, thiamine hydrochloride, niacin, et cetera? What would be the ill-effects of giving too large doses of one or more of these vitamins?

DR. VERNON L. HART, Minneapolis: I would like to know if the brownish transverse bands that seemed to be so common on the teeth were of any significance?

DR. HENRY L. TAYLOR, Minneapolis: I would like to know how these lusterless eyeballs differ from those in our malnourished population?

DR. WILDER, in closing: I deplore as much as anyone the current indiscriminate use of pharmaceutical vitamins. I likewise deplore the fact that the active interest in nutrition occasioned by the war provided ammunition to exploiters of the vitamins. The bad accompanies the good always; nevertheless, to aim dietetically at the recommended allowances of the Food and Nutrition Board is certainly justifiable.

None of the children of the groups investigated were treated with pharmaceutical vitamins. However, in Newfoundland, by government regulation, all white flour imported was to be enriched, beginning about the time of our departure. This has resulted in a considerable increase in the intake of riboflavin, thiamine and niacin. We hope to visit Newfoundland again next year to observe the effects of this on the incidence of those tissue lesions commonly attributed to an inadequate intake of any of these vitamins. Nothing will have been done about the supply of vitamin C, and if we observe improvement of lips, tongue or conjunctiva and no change in the incidence of lesions of the gums, the improvement with reasonable assurance can be credited to the enrichment of the flour.

In line with this are observations of Jolliffe at the Bellevue Hospital in New York City. There, since enrichment of white bread and white flour was introduced, the incidence of lesions attributed to deficiency of riboflavin and niacin has markedly diminished. Also polyneuritis, which formerly was very common on the wards for alcoholics, has almost disappeared. That this improvement is related to enrichment of the bread and not to the increased purchasing power occasioned by the war is evidenced by the fact that the incidence of lesions attributed to inadequate intake of vitamin C has not decreased.

The Minnesota children were not put on vitamins, but from Florida comes a recent report of a similar study with observation of striking benefit from the institution of a satisfactory school lunch program which was supplemented for the first year with synthetic vitamins. The vitamins were given to those who appeared to be in need of them. That is, they were used as therapeutic agents, to which use one cannot take exception.

The question was asked whether various commercial practices for processing foods affect their vitamin contents. From what I have learned, as a member of the Council on Foods and Nutrition of the American Medical Association, the answer is that modern methods of canning do a very good job of preserving the vitamins and minerals of foods. Even the highly perishable vitamin C of citrus fruits is well preserved. With frozen foods there is little loss of anything. The principal vitamin loss occasioned by food processing resulted from the milling of wheat to make white flour. Enrichment of white flour has restored the content of thiamine, niacin and iron and has added riboflavin. It is to be hoped that enrichment of bread and flour can be made universal by legislation. Legislation also is desirable to assure the universal fortification of margarine with vitamin A and the universal fortification of table salt with iodine. No large section of the country is free from simple goiter, and such goiters are preventable with use of iodine. Recent surveys have revealed much adolescent goiter in regions which heretofore were considered to be goiterless.

Except in the case of vitamin D there is no good evidence of harm resulting from overdosage of any of the vitamins, and certainly there can be no danger of overdosage of vitamins from consuming food. Arctic explorers have developed ill-effects from eating the liver of polar bear which is said to be exceedingly rich in vitamin A, but few of us are likely to indulge excessively in polar bear liver.

There was little tooth brushing done in Newfoundland, which probably explains the brownish discoloration of some of the teeth shown in the lantern slides. I have no data on the fluoride content of the water in Newfoundland, but from the fact that the soil is very shallow and the underlying rock is largely igneous, I would guess its content of salts of all kinds to be low. I have heard that the fluoride contents of the drinking waters of Minnesota also are low. This may not be true, and before attributing the difference in the incidence of caries to the difference in the diets of Newfoundland and Minnesota, we ought to know about the fluoride of the waters used.

The lusterless ocular conjunctiva observed in Newfoundland was so much like that observed in the subjects of the experiment on semistarvation to which Dr. Taylor referred that when I saw those subjects I was led to suspect deficiency of vitamin A. The brownish pigmentation of the skin of the face observed in many of those subjects was also seen in Newfoundland, where the calories were sufficient but the supply of several vitamins was inadequate.

The meeting adjourned.

A. E. CARDLE, M.D., *Secretary*

SILLIMAN'S VISIT TO MINNESOTA

(Continued from Page 293)

The Falls are of very inconsiderable elevation; it appeared to us about 20 feet—Dr. Owen writes 16 feet (Owens survey)—probably the height may vary with different stages of the water. It has but a very faint resemblance to Niagara where the water falls 150 feet on the British side and 164 on the American. Still the effect is grand. As at Niagara, the river is divided by an island, forming two branches, but united into one flood both above and below.

Above the island, the river at a medium stage of the water, as at the time of our visit, is fordable by horses and carriages and some people of our party crossed in that way. We regretted that we had not known that fording was practicable as it would have saved us a perilous passage on foot over a miserable apology for a bridge—a series of planks of no great width or strength, very imperfectly secured at the contiguous ends tempted us to pass as many others had done. There was no hand rail, except that for a short distance there was a dangerous substitute in a few narrow slips of boards imperfectly secured by nails. The violent rush of the torrent beneath the planks was in some places terrific and might cause some persons who have not steady nerves to become dizzy and fall. I led Sarah [his wife] with a firm grasp of a strong hand—but on our return she became faint and dizzy. I begged her to look up and not at the water; still I was very anxious and was relieved when Governor ? of one of the western states, a gentleman of noble person and bearing, took the lady's spare hand and we were soon safe over the flood, much to our relief. A suspension bridge now renders the passage safe. . . . We had to regret that we were not aware that we were in the near vicinity of the little cataract [Minnehaha Falls] called by the Aborigines the laughing water and which gave origin to Longfellow's pleasant poem of Hiawatha so remarkable for the skilful interweaving of Indian names into harmonious verses.

—Remarks by JOHN F. FULTON, M.D., Sterling Professor of Physiology, Yale University School of Medicine, in address before the Ramsey County Medical Society, September 23, 1947.

Reports and Announcements

INTERNATIONAL POLIOMYELITIS CONFERENCE

The first International Poliomyelitis Conference, to be held at the Waldorf Astoria Hotel in New York, July 12 to 17, has been called by the National Foundation for infantile Paralysis, with the co-operation of numerous national scientific organizations and government agencies. Addresses by leading world authorities on poliomyelitis will cover all phases of the subject, including research and treatment. The purpose of the conference will be to pool world knowledge about the disease and to expedite distribution of this knowledge on a world-wide basis.

NATIONAL GASTROENTEROLOGICAL ASSOCIATION

The National Gastroenterological Association will hold its thirteenth scientific session at the Hotel Pennsylvania in New York City, June 7-10, 1948.

In response to popular request, the program this year will again for the most part consist of symposia, and there will be one panel discussion.

The program for the first three days will be at the Hotel Pennsylvania and will consist of symposia on gastroduodenal ulcer; ulcerative colitis; jaundice and metabolism, nutrition and allergy. The panel discussion, which will be followed by a "question and answer" period, will cover the topics of diabetic, tubercular, psychosomatic and cardiac manifestations in gastrointestinal diseases.

The fourth day of the session will be devoted to a clinical day at co-operating hospitals in New York City.

At the annual banquet to be held on Tuesday evening, June 8, the winner of the National Gastroenterological Association's 1948 cash prize award contest for the best unpublished contribution on gastroenterology or an allied subject, will receive the prize of $100.00 and a certificate of merit.

Further details and a copy of the program may be obtained by writing to the Secretary, National Gastroenterological Association, 1819 Broadway, New York 23, New York.

SOCIETY OF AMERICAN BACTERIOLOGISTS

The annual meeting of the Society of American Bacteriologists will be held in Minneapolis May 10 through 14, with headquarters at the Nicollet Hotel. Among other sessions, there will be those on medical bacteriology, immunology and comparative pathology.

E. STARR JUDD LECTURE

The fifteenth E. Starr Judd lecture will be given by Dr. Alfred W. Adson, professor of neurosurgery at the Mayo Foundation, on April 29 at 8:15 p.m. in the auditorium of the University of Minnesota Museum of Natural History. Dr. Adson's subject will be "The Evolution of Neurosurgery."

The late Dr. E. Starr Judd, an alumnus of the University of Minnesota Medical School, established this annual lectureship in surgery a few years before his death.

MINNESOTA DIVISION AMERICAN CANCER SOCIETY

Dr. Arthur H. Wells, head of the Department of Pathology, St. Luke's Hospital, Duluth, was elected president of the Minnesota Division of the American Cancer Society at a meeting of the board of directors in Saint Paul on February 11. Dr. Wells succeeds the late Dr. William A. O'Brien, who had been president of the society for eight years at the time of his death in December.

Among other officers named by the board of directors was Dr. John J. Bittner, of the University of Minnesota, who was elected second vice president.

HENNEPIN COUNTY SOCIETY

Recently elected president of the Hennepin County Medical Society is Dr. Edward Dyer Anderson, Minneapolis, who will take office in October, succeeding Dr. Ralph H. Creighton.

Other officers of the society will be Dr. Robert F. McGandy and Dr. Karl W. Anderson, first and second vice presidents, respectively. Newly elected as board members are Dr. Russell W. Morse and Dr. Leo G. Rigler, board of directors; Dr. James A. Johnson and Dr. Erling S. Platou, board of censors; Dr. George N. Aagaard and Dr. Chauncey A. McKinlay, board of ethics, and Dr. Thomas J. Kinsella and Dr. T. A. Peppard, board of trustees. Named as delegates to the state association are Dr. Kinsella, Dr. Claude J. Ehrenberg, Dr. Douglas P. Head, Dr. Reuben A. Johnson, and Dr. Walter H. Ude.

WASECA COUNTY SOCIETY

At the annual meeting of the Waseca County Medical Society, held in Waseca early in January, Dr. R. C. Hottinger, Janesville, was elected to the office of president to succeed Dr. G. H. Olds, new Richland.

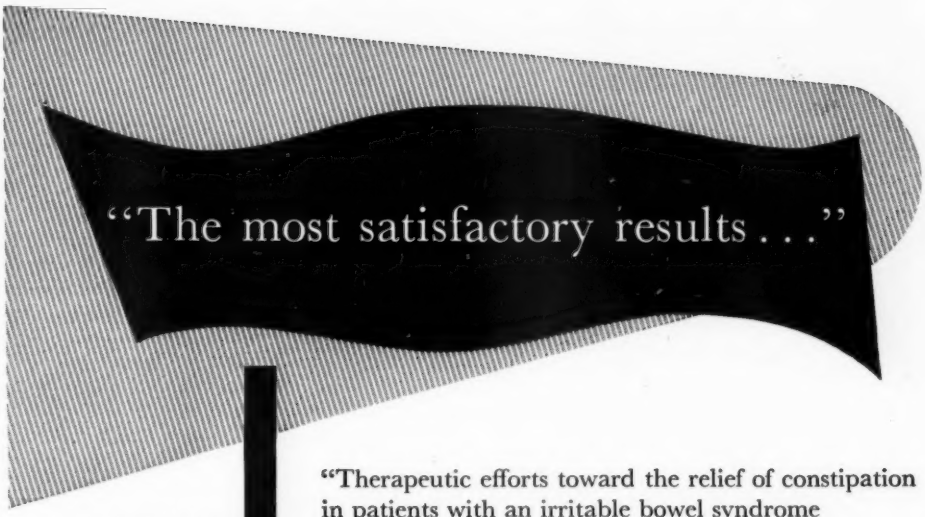
Also elected was Dr. S. C. G. Oeljen, Waseca, vice president, succeeding Dr. J. M. McIntire, Waseca, while Dr. C. T. Wald, Janesville, was named to replace Dr. Oeljen as secretary-treasurer.

The need for expansion of the Waseca Memorial Hospital was discussed, and use of a mobile x-ray unit for a country-wide survey was approved.

WASHINGTON COUNTY SOCIETY

At the January meeting of the Washington County Medical Society, held in Stillwater on January 13, Dr. Robert W. Holmen, Saint Paul, was the principal speaker, discussing the subject, "Allergy."

When the society met in Stillwater on February 10, Dr. Karl H. Pfuetze, of Mineral Springs Sanatorium, demonstrated the reading of eighty-two chest x-ray films taken of Stillwater high school students on November 4, 1947.



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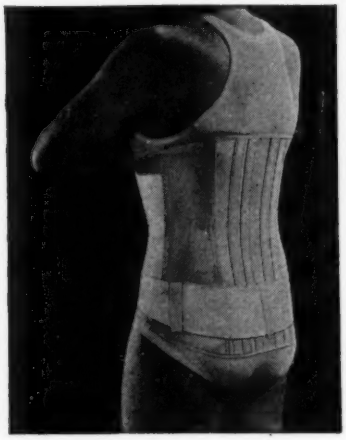
*Dolkart, R. E.; Dentler, M., and Barrow, L. L.: The Effect of Various Types of Therapy in the Management of the Irritable Bowel Syndrome. Illinois M. J. *90*:287 (Nov.) 1946.

SEARLE | RESEARCH IN THE SERVICE OF MEDICINE



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*Barr, Joseph S., *Ruptured Intervertebral Disc and Sciatic Pain*, Jr. Bone and Joint Surg., 29: 429-437 (April) 1947.

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WOMAN'S AUXILIARY

Hennepin County

The Woman's Auxiliary to the Hennepin County Medical Society held its annual open meeting and health education program on Friday, March 5, 1948, at 1:30 p.m. in the auditorium of the Minneapolis Institute of Arts. Invitations were extended to representatives of women's clubs engaged in civic, philanthropic, health and educational work, and to the officers and committee chairmen of the Woman's Auxiliary to the Minnesota State Medical Association, as well as the county presidents. The speakers were graciously introduced to the members and their guests by Dr. Ralph H. Creighton, president of Hennepin County Medical Society. Dr. Richard R. Cranmer spoke on "Prepaid Medical Service," and Dr. H. N. Wright, Associate Professor of Pharmacology at the University of Minnesota, spoke on "New Drugs."

Following the lectures, tea was served in the upstairs galleries. Among the guests were Mrs. Julius Busher and Mrs. T. N. Fleming of St. Cloud, Mrs. J. L. Benepe, Mrs. H. H. Fesler and Mrs. Wm. Von der Weyer of Saint Paul and Mrs. Hobart M. Johnson of Mankato.

St. Louis County

Members of the Woman's Auxiliary to the St. Louis County Medical Society entertained their husbands at an annual dinner dance on Saturday evening, January 31, at the Kitchi Gammi Club, Duluth. Mrs. J. A. Thabes, State President, was a guest at the regular January meeting.

The February meeting of the Auxiliary was held February 10 at the Duluth Woman's Club. Luncheon was at 1 P.M. At this meeting Mrs. C. L. Thomas gave a review of "The Bishop's Mantle" by Agnes Turnbull.

Southwestern Minnesota

The Southwestern Medical Society, its Auxiliary and District Unit No. 5 of the Minnesota Department of Health sponsored an all-day "Health Day" at the Worthington Armory, Worthington, Monday, February 23. "Community Health Problems" was the subject of the morning session. Dr. Gaylord W. Anderson, Mayo professor and director of the School of Public Health, University of Minnesota, was the chairman. Participants were Mrs. J. S. Jones, Executive Secretary of the Minnesota Farm Bureau, and Mrs. Harold Wahlquist of Minneapolis, national Public Relations Chairman.

A panel discussion on "Home Safety" was conducted in the afternoon by Dr. Robt. N. Barr of the Minnesota Department of Health. "Safety on the Farm" was also discussed at this meeting. Dr. Dale B. Harris, acting director of the Institute of Child Welfare, University of Minnesota, conducted a panel dealing with the "Behavior problems in children" and other aspects of mental health. Winners of a "Nutrition and Farm and Home Safety" poster contest were introduced in the evening. Governor Luther W. Youngdahl was the principal speaker of the evening. This "Health Day" is the first of its kind in Minnesota.

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Such progress in surgery has been hastened by significant developments in four important fields.

1. Anesthesia. The administration of anesthetics has become a specialized science. New anesthetics have been developed—less toxic, less upsetting to respiration and heart action. With modern anesthesia the patient has a far easier time when undergoing surgery. Post-operative nausea and vomiting, which were previously almost taken for granted, are now much less frequent.

2. Infection-fighting drugs. Peritonitis, once feared as a frequent complication of abdominal surgery, today is uncommon. The use of such agents as the sulfa drugs and penicillin—to treat infection or to guard against it—has almost eliminated many of the infections which formerly constituted the greatest dangers in surgical procedures.

3. Early ambulation. Doctors have found that getting patients out of bed soon after operations not only speeds recovery, but also prevents many of the discomforts formerly suffered. Bowel and urinary functions are quickly restored. Gas pains are usually avoided. It is not unusual nowadays for a patient to be well enough to go home from the hospital in less than ten days after a major operation.

4. Body Nutrition. One of the problems in surgery has been that the condition which makes an operation necessary is usually one which has depleted the patient's nutritional reserves, and therefore lessens his ability to recover promptly from the operation itself.

In recent years, however, medical science has broadened its knowledge of body nutrition.

Today, it is possible to determine in what a patient's body is deficient—whether he needs whole blood, vitamins, salts, carbohydrates, protein.

Each of these elements can be replaced—making it far easier for the patient to go through an operation. Post-operatively, also, recovery is hastened by supplying the body's needs in easily assimilated form.

SEE YOUR DOCTOR. Give him your complete confidence at all times. If he advises an operation, follow his recommendation promptly. With modern surgery, with modern hospital care, you have little reason to be afraid.

Remember, too, that when surgery is indicated, a delay may be dangerous. Prompt action is likely to give you a quicker recovery—and an easier one!

Makers of medicines prescribed by physicians PARKE, DAVIS & CO. *Research and Manufacturing Laboratories, Detroit 32, Mich.*

In Memoriam

CHARLES P. ALING

Dr. Charles P. Aling, for more than forty years a member of the staff of St. Barnabas Hospital in Minneapolis, died January 16, 1948, at the age of sixty-nine.

Dr. Aling was born near Blue Earth, Minnesota, in 1878. He graduated from Rush Medical School in 1900 and practiced at Marine-on-St. Croix, for three years before locating in Minneapolis.

He was a member of the Hennepin County Medical Society, the Minnesota State and American Medical Associations.

Dr. Aling is survived by his wife, Genevieve; a daughter, Mrs. Adrian Kennison of Plainfield, New Jersey, and a son, Dr. Charles A. Aling of Minneapolis.

HERMAN A. FASSBENDER

Dr. Herman A. Fassbender, mayor of Hastings, Minnesota, died January 7, 1948, after a year's illness.

Dr. Fassbender was born in Hastings, January 20, 1894. He obtained his medical degree from the University of Minnesota in 1920 and for the past eighteen years has maintained St. Raphael's hospital in Hastings. He was a councilman for four years and mayor for the two-year terms of 1935-1936, 1940-1941 and 1946-1947.

Dr. Fassbender is survived by his wife, three sons, Dr. William of Alma, Wisconsin, Dr. Herman T. at St. Louis University and David of Hastings and two daughters, Mary Margaret and Eileen.

FRED WILLIAM GAARDE

Dr. Fred W. Gaarde, since 1920 an internist in the Mayo Clinic, died February 10, 1948, following a long illness.

Dr. Gaarde was born June 20, 1887, at Minden, Nebraska. He obtained a B.S. degree from the University of Chicago in 1909 and his M.D. from Rush Medical School in 1912. Interning first at the Akron City Hospital for six months, he spent the following eighteen months at the Presbyterian Hospital in Chicago. He then became associated with Dr. Frank Billings in Chicago and practiced there from 1913 until he entered the army in 1918. After serving overseas, he was discharged as a major in 1926.

In 1920, Dr. Gaarde became connected with the Mayo Clinic, becoming head of a section in medicine in 1926. At the time of his death, he was a Senior Consultant in Medicine and Assistant Professor of Medicine at the Mayo Foundation.

He was a fellow of the American College of Physicians, a member of the Chicago Society of Internal Medicine, the Central Society for Chemical Research, the Minnesota Society of Internal Medicine, the Olmsted-Houston-Fillmore County Medical Society and the Minnesota State and American Medical Associations.

On May 20, 1915, Dr. Gaarde married Hazel Holman. She and two sons, Dr. Fred Gaarde, Jr., of Rochester and Richard Gaarde, who is with the Naval Air Corps in Trinidad, his mother, Mrs. Anna Klith Gaarde and a brother John of Hastings, Nebraska, survive him.

VERNER G. HESELTINE

Dr. Verner G. Heseltine, well-known physician of Taylors Falls, Minnesota, passed away December 8, 1947. He was seventy-two years old.

A native of Australia, Dr. Heseltine was born in Adelaide, South Australia. He went to England at the age of nineteen and graduated from St. Bartholomew's Hospital Medical School. He practiced at the Rotunda Hospital, Dublin, before coming to Taylors Falls thirty years ago.

Dr. Heseltine had been a member of the Ramsey, Chicago-Pine and East Central County Medical Societies, the Minnesota State and American Medical Associations. He was also a member of the Royal College of Surgeons.

Dr. Heseltine's wife, the former Jessica O'Brien, died four years ago. He is survived by two daughters, Mrs. Kenneth Pepper and Mrs. Ben Bezina of Taylors Falls, and two brothers who live in Australia.

PAUL HAROLD KELLY

Dr. Paul H. Kelly, well known as a surgeon in Saint Paul for the past thirty-six years, died suddenly at the age of sixty-three at St. Josph's Hospital on January 9, 1948.

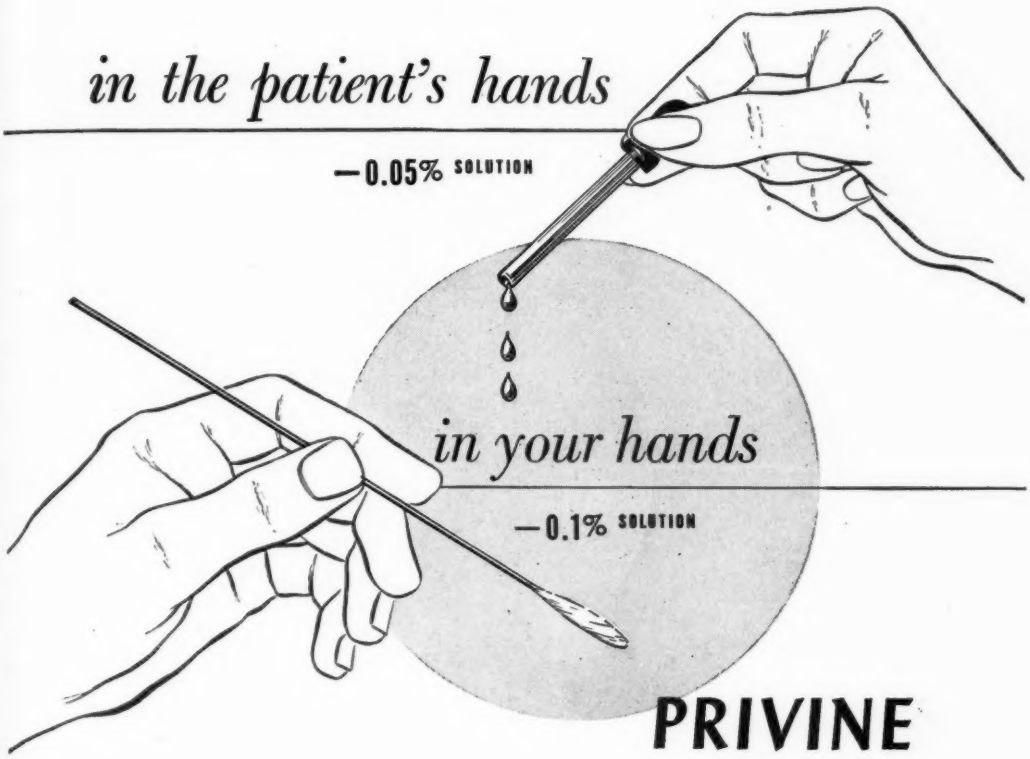
The youngest of eight children, Dr. Kelly was born on October 5, 1884, the son of the late Daniel W. Kelly and Mary Collins Kelly. By a strange coincidence his death took place in the same hospital in which he was born.

He attended the Saint Paul grade schools, Cretin and Central High Schools and Hamline University for a year. He received a degree as pharmaceutical chemist in 1904 and his M.D. in 1911, both from the University of Minnesota. During the later years of his medical training, he lived at St. Joseph's Hospital in the capacity of an extern. During this time, he also acted when called upon as relief for the police surgeon at night.

After graduation in 1911, Dr. Kelly interned at Ancker Hospital, then known as the City and County Hospital in Saint Paul, was city physician from 1912 to 1914, and a member of the surgical staff of Ancker Hospital from 1912 to 1928. He was also a member of the staffs of St. Joseph's, Miller, St. Lukes, Midway and St. John's Hospital. He was a member of the advisory board of St. Joseph's Hospital from 1934 to 1939 and the chief of staff in 1939.

Dr. Kelly was a member of the Ramsey County Medi-

(Continued on Page 312)



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PAUL HAROLD KELLY

(Continued from Page 310)

cal Society, the Minnesota State and American Medical Associations, a Fellow of the American College of Surgeons and a member of the American Association of Railroad Surgeons. In recent years, he was local surgeon for the Chicago, Milwaukee and Saint Paul and the Chicago, Great Western railways.

Dr. Kelly was one of the first surgeons in Saint Paul to specialize in industrial surgery, and as a result of his experience, his advice and counsel were frequently sought. He published several articles in MINNESOTA MEDICINE: one in 1922 entitled "Strangulated Hernia—Report of Cases"; his part in a Symposium on Emergency Surgery held at the 1933 meeting of the Minnesota State Medical Association, and in 1934 an article entitled "Industrial Accidents—A Report of 2,000 Cases."

Dr. Kelly was a member of the Alpha Kappa Kappa medical fraternity and a life member of the Saint Paul Athletic Club. Hunting was his favorite hobby. He possessed a fine tenor voice and enjoyed classical music in all its forms.

Dr. Kelly was married in 1914 to Leslie F. Terry of Saint Paul. She preceded him in death in February, 1945. Surviving him are four children: Paul Richard of Modesto, California; Howard William of Balboa Island, California; Dr. William Daniel, captain in the Army Medical Corps now in Japan; and Elizabeth Louise (Mrs. Jack C. Cooper) of Milwaukie, Oregon. He is also survived by his brother, Dr. John V. Kelly, and sister, Miss Margaret E. Kelly, both of Saint Paul.

KARL DEDOLPH

CLARENCE GEORGE PERRY

Clarence George Perry passed away suddenly January 6, 1948, at McAllen, Texas. He was born in Saint Paul, Minnesota, July 27, 1885, the son of A. W. and Mary Josephine Perry. He graduated from Humboldt High School, and the University of Minnesota Medical School in 1909, after which he served as intern at the City and County Hospital in Saint Paul. Following his internship he took postgraduate work in New York City. Returning to his native city he engaged in general practice with the late Dr. Michael Welch on the West Side.

Following his discharge from the Army, in which he served as a captain during World War I, he engaged in the study of his chosen specialty, eye, ear, nose and throat, in Bellevue Hospital in New York City. On his return to Saint Paul, he became associated with Dr. Henry Beaudoux with offices in the Lowry Building. When Dr. Beaudoux left the city, Dr. Perry continued his practice alone until his retirement January 1, 1947.

He was a member of the Saint Paul Athletic Club, the Town and Country Club, serving as president of the latter in 1935. He was also a member of Nu Sigma Nu Fraternity, Ramsey County Medical Society, Minnesota State Medical Association, and the American Medical Association.

Clarence's hobbies were golf, hunting and fishing, and he was most proficient in all.

He was married to Maude Gould on May 30, 1914. Surviving are his wife, a sister, Mrs. Fred Hennessy, two nieces and two nephews.

His gracious personality, his kindly smile, and pleasant ways endeared him to a host of friends. He will be missed by many people, in many ways.

CARL L. LARSEN, M.D.

CARDIAC EMERGENCIES

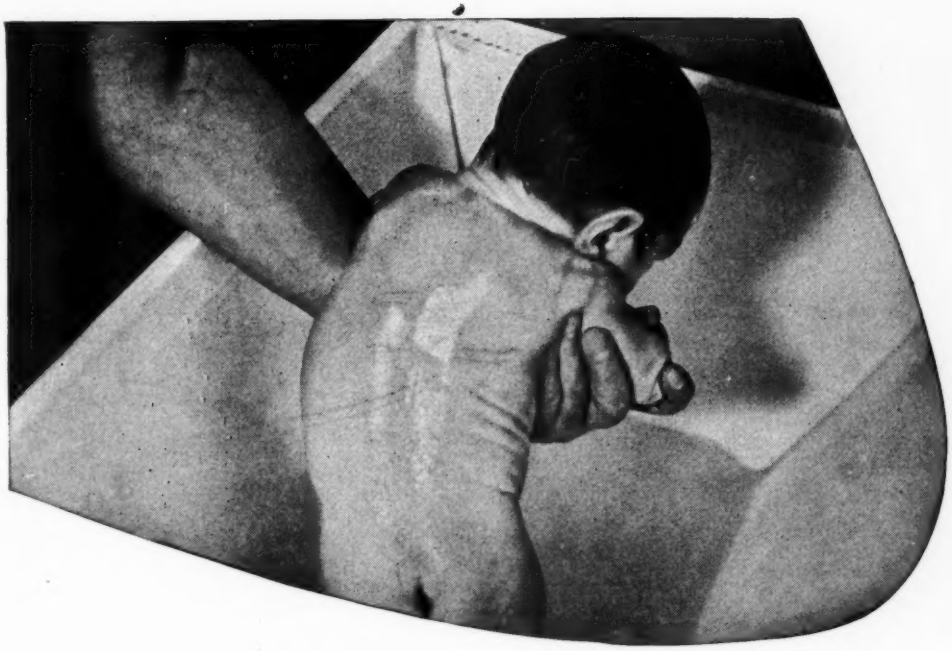
(Continued from Page 263)

and treat cardiac diseases should have ample knowledge to diagnose cardiac emergencies correctly and to know the correct procedures of treatment.

2. One must use common medical sense in many of these cases. Digitalis preparations are not to be used in every cardiac patient. Probably one reason why many patients have not died because of the abuse of digitalis is because the attending physician has not digitalized the patient. The electrocardiogram is not necessary at once in all cases, since it may needlessly aggravate the condition which is already present. This is true of many laboratory procedures. Make the diagnosis, treat the patient, then establish the diagnosis by laboratory means if necessary.

References

1. Askey, J. M., and Neurath, O.: Treatment of auricular fibrillation occurring with myocardial infarction. Am. Heart J., 30:253-259, (Sept.) 1945.
2. Boland, Edward W.: Relief of pain in coronary thrombosis and severe angina pectoris. J.A.M.A., 114:1512-1514, (April 20) 1940.
3. Bunn, William Hall: Some uses and abuses of digitalis. Ohio State M. J., 33:980, (Sept.) 1937.
4. Day, Hughes W.: The treatment of coronary occlusion. J. Kansas M. Soc., 47:559, 1946.
5. Dressler, William: The diagnosis and treatment of cardiac emergencies. West Virginia M. J., 38:9, (Jan.) 1942.
6. Evans, James A.: Cardiac emergencies and their management. Wisconsin M. J., 41:297, (April) 1942.
7. Geiger, Arthur J.: Recent advances in the treatment of acute myocardial infarction. Rhode Island Med. J., 28:793, (Nov.) 1945.
8. Hoskin, T. J.: Cardiac emergencies. Clin. J., 66:27, (July-Aug.) 1937.
9. Hoskin, T. Jenner: Diagnosis and treatment of coronary diseases. Practitioner, 153:136, (Sept.) 1944.
10. Kossove, Alberta: Dicumarol—its use in acute coronary thrombosis. South. Med. & Surg., 108:309, 1946.
11. Leaman, W. G.: Management of the Cardiac Patient. P. 504. Philadelphia: Lippincott, 1941.
12. Lyon, J. A.: The diagnosis and treatment of cardiac emergencies. J.A.M.A., 114:835-840, (March 9) 1940.
13. Nathanson, M. H.: Treatment of cardiac emergencies; Minnesota Med., 18:455, (July) 1935.
14. Peters, H. C., and Visscher, M. R.: The energy metabolism of the heart in failure and the influence of drugs upon it. Am. Heart J., 11:273, 1936.
15. Reifenstein, Edward C.: The recognition and treatment of cardiac emergencies. New York State J. Med., 39:1339, (July 15) 1939.
16. Sherman, Royal V.: The treatment of the coronary emergency. Minnesota Med., 29:890, (Sept.) 1946.
17. White, Paul D.: The diagnosis and treatment of cardiovascular emergencies ("heart attacks"). J. Indiana M. A., 33:1, (Jan.) 1940.
18. Wood, Francis C.: The treatment of coronary disease. M. Clin. North America, 30:1275-1285, (Nov.) 1946.



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Of General Interest

During the middle of January, Dr. Grant Hartnagel of Red Wing was in Chicago attending the annual meeting of the Chicago Gynecological Society.

* * *

Dr. John W. Stuhr, Stillwater, recently had the misfortune to fracture his left patella and as a consequence was confined to a hospital for a period.

* * *

New city health officer in Wayzata is Dr. C. J. Martinson, who was appointed to the position at a January meeting of the Wayzata city council.

* * *

"The Treatment of Diseases of the Blood" was the title of a paper presented by Dr. James M. Stickney, Jr., Rochester, at a meeting of the Kenosha County Medical Society at Kenosha, Wisconsin, on February 5.

* * *

In Aberdeen, South Dakota, on January 20, Dr. Charles H. Scheifley of Rochester discussed "The Surgical Risk in Heart Disease" at a meeting of the district medical society.

* * *

A former Fellow in urology at the Mayo Foundation, Dr. Alfonso de la Pena has received the appointment of professor of urology at the University of Madrid, Spain. Dr. Pena left the Mayo Clinic in 1930.

* * *

Attending a meeting of the Cerro Gordo County Medical Society in Mason City, Iowa, on January 13, Dr. R. J. Jackman, Rochester, presented a paper entitled "Rectal Problems in General Practice."

* * *

Upon resignation of the former coroner, Murray County commissioners appointed Dr. Richard M. Johnson, Slayton, as coroner of Murray County. Announcement of the appointment was made early in February.

* * *

New trustee of the Minnesota Community Research Council is Dr. Jay M. Cook, Staples, who was elected to the position at the annual meeting of the organization held in Minneapolis on January 30.

* * *

Dr. Meyer S. Belzer, Minneapolis, former division surgeon, was a speaker at a meeting of the Minnesota Chapter of the 106th Division Association on February 6 in Minneapolis.

* * *

Among Minnesota physicians attending a convention of the American Academy of Orthopedic Surgeons, held in Chicago during the latter part of January, was Dr. E. H. Juers of Red Wing.

* * *

"Heart Disease, Its Prevalence and Care" and "Purposes of the Minnesota Heart Association" were the subjects discussed by Dr. Charles Koenigsberger, of the Mankato Clinic, when he spoke at a meeting of the American Association of University Women on January 20 in Mankato.

* * *

Dr. R. W. Backus, member of the Nopeming Sanatorium staff, was speaker at a meeting of the Arrowhead chapter, Order of the Eastern Star, in Duluth on January 24.

* * *

When officials of Mazeppa took over their posts for 1948 at a village council meeting on January 7, Dr. Martin G. Flom of Zumbrota was appointed village health officer.

* * *

Physicians and their wives from the Mesaba Clinic and the Adams and Morsman Clinics were guests at an open house held on January 4 by Dr. and Mrs. Robert L. Bowen of Hibbing.

* * *

New assistant to Dr. Karl Pfuetze at Mineral Springs Sanatorium is Dr. William M. Ashe, who in January moved to Cannon Falls from Rochester, where he has a fellowship in surgery.

* * *

Guest speaker at a special meeting of the Women's Welfare League, held in Saint Paul on January 21, was Dr. Edwin J. Rose, manager of the Veterans Administration Hospital at Fort Snelling.

* * *

Early in January, Dr. Harold J. Anderson, who had been associated in practice with Dr. M. R. Williams in Cannon Falls, left to complete a fellowship in surgery at Minneapolis General Hospital.

* * *

Dr. Charles W. Fogarty, Jr., of Saint Paul, spoke before the McLeod County Medical Society at Glencoe, Minnesota, February 19, 1948, on the subject, "The Diagnosis and Treatment of the Common Rheumatic Diseases."

* * *

In late January, while inspecting the School of Aviation Medicine at Randolph Field, Texas, Dr. Howard B. Burchell, Rochester, addressed the faculty, student flight surgeons and nurses on "Relationship of Cyanosis and Arterial Oxygen Desaturation."

* * *

Participating in a postgraduate course at George Washington University, Washington, D. C., on February 12 and 13, Dr. A. M. Snell, Rochester, presented a paper entitled "Differential Diagnosis of Jaundice" and assisted in a clinic on surgery of the liver, spleen and pancreas.

* * *

Dr. Alfred Uihlein, Jr., Rochester, presented a paper at a meeting of the La Crosse County Medical Society

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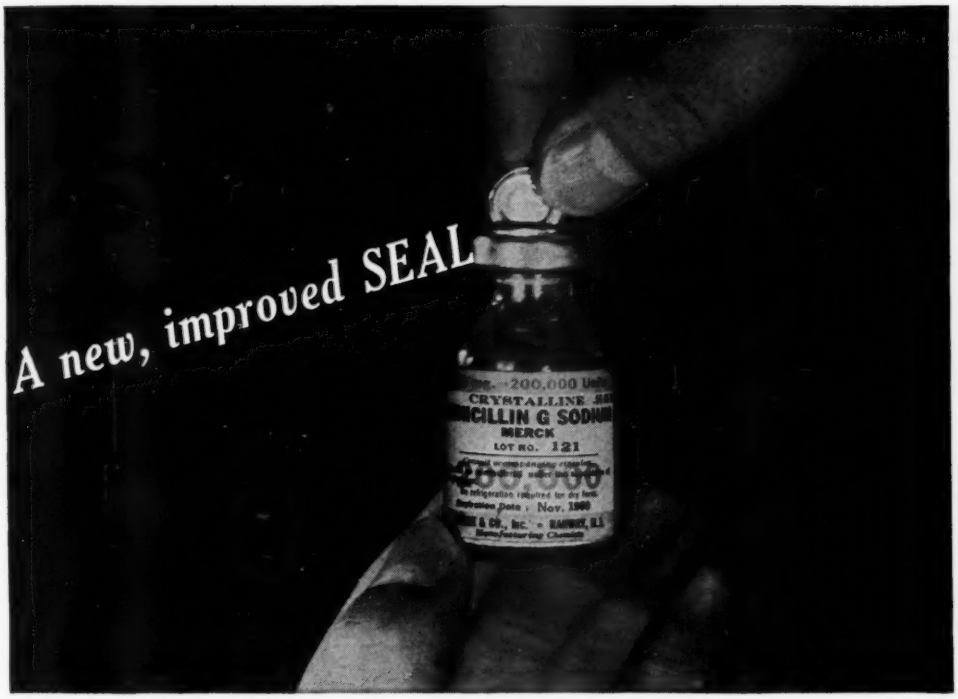

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(Continued from Page 314)

on February 10 in La Crosse, Wisconsin. The title of the paper was "Injuries of the Head with and without Injury of the Brain; Diagnosis and Management."

* * *

Members of the Minnesota Academy of Ophthalmology and Otolaryngology, meeting in Saint Paul on January 16, heard Dr. H. L. Williams, Rochester, speak on "Diagnosis and Treatment of Endolymphatic Hydrops without Vertigo."

* * *

Chairman of the budget committee of the St. Louis County Tuberculosis and Health Association is Dr. Mario Fischer, Duluth, who was named to the post at a meeting of the directors in Duluth on February 10. Annual meeting of the group will be held on April 20.

* * *

Dr. Charles F. Medlin, Truman, was married on December 28 to Miss Harriet Bush of Granite Falls. Dr. Medlin, who was formerly of Minneapolis, was graduated from the University of Minnesota Medical School in 1942.

* * *

Council chairman of the Minnesota State Medical Association, Dr. F. J. Elias, Duluth, spoke on "Health Legislation" at a meeting of the Women's Auxiliary to the St. Louis County Medical Society, held in Duluth on January 13.

* * *

Diseases of the chest were discussed by Dr. A. E. Krieser, Mankato, at a meeting of the Immanuel Hospital Auxiliary on January 9 at the Mankato YWCA. Dr. Krieser was formerly on the staff of the Ah-Gwah-Ching Sanatorium.

* * *

Recently elected as a member of the board of Community Health Service, in Minneapolis, was Dr. Hermina Hartig, who was named to the post at a meeting of the organization in Minneapolis on January 18.

* * *

Members of the Franklin School PTA, meeting in Anoka on January 21, heard Dr. A. B. Rosenfield, director of health district No. 6, Minnesota Department of Health, speak on "Common Communicable Diseases and Immunization."

* * *

After returning from four years of service in the army, three years of it in the Southwest Pacific, Dr. A. A. Bodaski in January opened offices in Le Center for the practice of medicine. Before entering the army, Dr. Bodaski practiced at Montgomery.

Formerly of Winona, Dr. Roger MacDonald has become associated in practice with Dr. R. D. Hanover in Littlefork. After graduating from the University of Minnesota Medical School, Dr. MacDonald interned at St. Luke's Hospital in Duluth.

* * *

Dr. Stewart Thomson, associate professor of public health at the University of Minnesota, is broadcasting health information to the public, under the sponsorship of the Minnesota State Medical Association, over KUOM on Wednesdays from 11:00 to 11:15 a.m. and over WCCO on Saturdays from 9:15 to 9:30 a.m.

* * *

Two follow-up tuberculosis chest clinics were held in Albert Lea during January by Dr. Karl Pfuetze, superintendent of Mineral Springs Sanatorium, who on January 12 and again on January 27 examined persons known to have had active tuberculosis and administered Mantoux tests to all persons requesting one.

* * *

Price increases adopted by the Winona County Medical Society were agreed to be justified when the subject was discussed in impromptu talks at the January 6 meeting of the Winona Toastmasters Club. Among those appearing on the program were Dr. F. J. Vollmer and Dr. George Loomis.

* * *

Speaking at a meeting on January 21 sponsored by the Women's Board of St. Barnabas Hospital and held at the Minneapolis YWCA, Dr. Benjamin M. Spock, Rochester, discussed "Emotional Needs of Children of Various Ages." Dr. Spock is the author of *The Common Sense Book of Baby and Child Care.*

* * *

Dr. K. M. Simonton, Rochester, while attending the Middle Section meeting of the American Laryngological, Rhinological and Otological Society in Columbus, Ohio, on January 19 and 20, presented a paper written in collaboration with Dr. J. X. Medwick entitled "Epidermoid-like Lesions of the Frontal Bone Simulating Mucocele; Report of Two Cases."

* * *

Several Minnesota discussion groups are preparing material for the first International Mental Health Congress, to be held in London in August, it was announced on February 11 by Dr. Reynold A. Jensen, child psychiatrist at the University of Minnesota. He said that plans for the gathering call for the formation of a World Mental Health Federation.

(Continued on Page 318)

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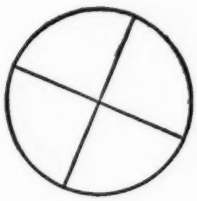

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[1]Harris, S. C.; Ivy, A. C., and Searle, L. M.: THE MECHANISM OF AMPHETAMINE-INDUCED LOSS OF WEIGHT: A Consideration of the Theory of Hunger and Appetite, J.A.M.A. 134:1468 (Aug. 23) 1947.

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(Continued from Page 316)

"Outstanding young man of Warren" was the title conferred on Dr. Martin J. Bechtel at a recognition dinner given by the Warren Junior Chamber of Commerce on January 19. Long active in North Star District Boy Scout activities and general affairs of the Jaycees, Dr. Bechtel is a member of the staff of the Warren Clinic.

* * *

The son of Dr. B. C. Ford of Marshall, Dr. Jack Ford began a fellowship with the Mayo Foundation at Rochester on January 5. A graduate of Marquette University, Dr. Ford interned at Bethesda Hospital, Bethesda, Maryland, then served in naval hospitals in England, France and Germany for more than a year.

* * *

Coming from a practice in Auburn, Washington, Dr. Jay L. Kevern has become associated with Dr. A. J. Lewis and Dr. C. W. Lewis in Henning. A graduate of the University of Minnesota Medical School in 1944, Dr. Kevern interned at a naval hospital at Long Beach, California, and later served in the navy aboard the U.S.S. Brazos.

* * *

Speaking before a delegation of the American Association of Schools of Social Work, at a meeting in Minneapolis on January 22, Dr. M. M. Weaver, assistant dean of medical sciences at the University of Minnesota, described the emphasis the University is now placing on interesting and training students to become general practitioners.

* * *

January 22 marked the fiftieth wedding anniversary of Dr. and Mrs. H. P. Dredge of Sandstone. The event was celebrated by the physician and his wife in Santa Monica, California, where they were enjoying a long winter vacation. Married in 1898 in Duluth, Dr. Dredge practiced medicine in Belview until 1903, then moved to Sandstone to open the practice that he still maintains.

* * *

A Certificate of Merit from the President of the United States was awarded on February 5 to Dr. Donald C. Balfour, director emeritus of the Mayo Foundation. Presentation of the certificate, which was awarded "for outstanding fidelity and meritorious conduct in the aid of the war effort," was made by Rear Admiral F. L. Conklin, medical officer of the Ninth Naval District with headquarters at Great Lakes, Illinois.

* * *

Members of the Saint Paul Surgical Society, at a meeting held on January 21, heard Dr. George Crile, Jr., of the Cleveland Clinic in Ohio, state that recently discovered drugs may largely replace surgery in the future treatment of hyperthyroidism. Dr. Crile also discussed new developments in the surgical treatment of goiter and described the use of radioactive iodine for therapeutic purposes.

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After being discharged from the army in November, 1947, Dr. John H. Reitmann opened offices for the practice of medicine in Hastings early in January. A former resident of Red Wing, Dr. Reitmann graduated from the University of Minnesota Medical School, interned at Milwaukee Hospital in Milwaukee, Wisconsin, and then served in the army for two and one-half years, most of the time in Germany.

* * *

More than 100 friends of Dr. and Mrs. Erling G. Hestesnes met at the First Lutheran Church in Albert Lea on January 17 to give a farewell dinner for the couple who planned to leave on January 28 to serve as medical missionaries in South Africa. A graduate of the University of Minnesota Medical School, Dr. Hestesnes served as a captain in the army during World War II, most of the time in the Pacific theater of operations.

* * *

Numerous Minnesota physicians attended a three-day cancer-control course held at the University of Minnesota Center for Continuation Study January 19 to 21. Among those in attendance were Dr. R. J. Wilkowske, Owatonna; Dr. Elmer Hartung, Claremont; Dr. A. Harold Mork, Anoka; Dr. David P. Anderson and Dr. Paul C. Leck, Austin; Dr. H. B. Troost, Mankato, and Dr. Joseph E. Murphy, Marshall.

* * *

Dr. Jeannette L. Baker, Fergus Falls, presided when the advisory committee of the Summer Roundup met in Saint Paul on January 30 to discuss plans to provide pre-school health examinations for all Minnesota children who enter school for the first time in September. The summer Roundup compaign is sponsored by the Minnesota Congress of Parents and Teachers, with the co-operation of the Minnesota Public Health Association.

* * *

Steak dinners were eaten on two consecutive nights when the physicians comprising the Estrem Clinic in Fergus Falls entertained the nurses, technicians and office force members of the clinic and St. Luke's Hospital on the evenings of January 7 and 8. The party was held on the two successive evenings to allow the entire nursing staff of the hospital to attend, half of the members on each night. Introduced at the dinners was Dr. Daehlin, new staff member of the clinic.

* * *

On January 2, Dr. Ralph E. Wenzel, formerly with the Albert Lea Medical and Surgical Center, became associated in practice with Dr. George W. Drexler in Blue Earth.

A graduate of Northwestern University in 1938, Dr. Wenzel served his internship at the U. S. Marine Hospital in New Orleans, then obtained a commission in the U. S. Public Health Service, working in Marine hospitals in Alabama, Indiana, and Chicago. During the war he was assigned to the U. S. Coast Guard, being stationed in Los Angeles and Hawaii. After resigning his commission in 1946, he engaged in general practice in Albert Lea for a year.

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1. Kasper, J. A. and Jeffrey, I. A.: A Simplified Benedict Test for Glycosuria, Amer. J. Clin. Pathology, *14*:117-21 (Nov.) 1944.

2. Haid, W. H.: The Use of Screening Tests in the Clinical Laboratory, J. Amer. Med. Tech., *8*:606-14 (Sept.) 1947.

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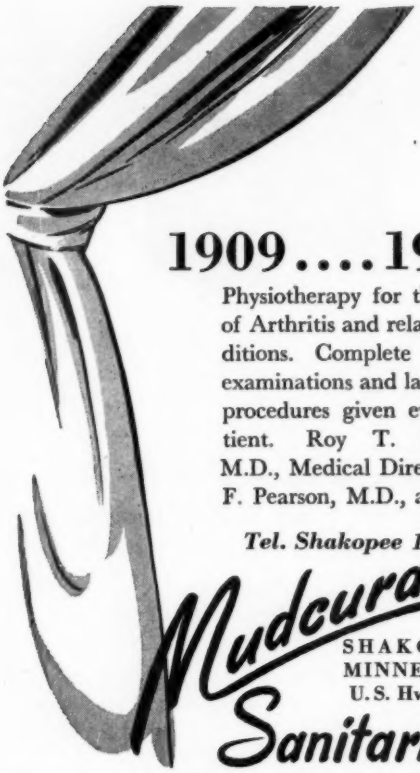

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Surgical Pathology every two weeks.
FRACTURES and Traumatic Surgery—Intensive course, two weeks, starting June 7.
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OBSTETRICS—Intensive course, two weeks, starting April 12, June 21.
MEDICINE—Intensive course, two weeks, starting April 26.
Personal course in Gastroscopy, two weeks, starting March 29, April 19.
Electrocardiography and Heart Disease, four weeks, starting May 3.
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Two Mayo Clinic physicians spoke at the Careers Day conference held at Carleton College, Northfield, on February 11. Dr. Arthur B. Hunt, consultant in obstetrics and gynecology at the clinic, discussed the field of medicine, and Dr. A. H. Sanford, senior consultant in the division of clinical laboratories, told students at Carleton about medical technology. Thirty-four business and professional men and women participated in the conference which was designed to assist students in choosing a life work.

* * *

Now on the staff of the Gamble Clinic in Albert Lea is Dr. O. A. Erdal, formerly of Milwaukee, Wisconsin, who joined the group late in January.

A native of Bricelyn, Dr. Erdal graduated from the University of Minnesota Medical School in 1943, serving his internship at St. Mary's Hospital in Milwaukee. After a period as a flight surgeon in the Air Forces, he returned to St. Mary's Hospital where he served as chief resident for a year and a half.

* * *

Principal speaker at a meeting of Section One of the Child Psychology Study Circle, held in Saint Paul on February 2, was Dr. Edward Dyer Anderson, clinical associate professor of pediatrics at the University of Minnesota, who spoke on "The Art and Wisdom of Being a Parent."

A native of Duluth who studied medicine at the University of Minnesota, later taking postgraduate work at Harvard and in Vienna, Dr. Anderson served in World War II as a captain in the navy medical corps.

* * *

Included in the group of Minnesota physicians who attended a continuation course in proctology at the University of Minnesota February 2 to 7 were Dr. C. A. Saffert, New Ulm; Dr. James L. Turner, Rochester; Dr. Philip F. Eckman, Duluth, and Dr. Marshall I. Howard and Dr. Norman F. Stone, both of Mankato. The course was given under the direction of Dr. Walter A. Fansler, clinical assistant professor of surgery, and consisted of lectures at the Center for Continuation Study and clinics at Minneapolis General and Fort Snelling Veterans Hospitals.

* * *

Establishment of a social security health program, assuring adequate medical and hospital care for all persons with low incomes, was recommended by Governor Luther W. Youngdahl in a talk at the annual convention of the Minnesota Federation of County Fairs on January 22 in Minneapolis.

In speaking of health programs in Scandinavian countries which he recently visited, Governor Youngdahl said, "We have got to come to something of that kind. We must make sure very citizen of the lower income group is provided with decent hospital and medical care."

* * *

The attenion of the profession is again called to the service given by the cancer home known as Our Lady of Good Council, located at 2076 St. Anthony Avenue, Saint Paul. The home was established in 1941 and is

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operated by the Sisters of the Third Order of Saint Dominic of the Catholic Church for indigent and incurable cancer patients, irrespective of their color or creed. All that is necessary for admission is a letter from the patient's physician giving the diagnosis, the medications being used, a brief history and a statement of incurability and indigency. No money is accepted for the care of any patients admitted, but contributions to the home are accepted.

* * *

Two educational talks on cancer control were presented before Duluth groups on February 10.

Dr. Elizabeth Bagley, Duluth, spoke at a meeting of the Duluth Business and Professional Women's Club at the Arrowhead Hotel, presenting a motion picture on cancer entitled "The Traitor Within." Members of the B'nai B'rith Lodge, at a meeting in Temple Emanuel, heard an address by Dr. C. H. Mead, Duluth, and saw a moton picture on cancer control entitled "You Are the Switchman."

Both talks were scheduled through the speakers' bureau of the Duluth District of the American Cancer Society.

* * *

Two new physicians became associated with the Mesaba Clinic on January 19. Joining the group at the Hibbing clinic was Dr. W. H. Ylitalo, while Dr. R. C. Fortier became a member of the clinic at Marble and Calumet.

Dr. Ylitalo, a former resident of Keewatin, graduated from the University of Minnesota and interned at the Mare Island Naval Hospital in California. Dr. Fortier, formerly of Little Falls, also graduated from the University of Minnesota Medical School but served his internship at Minneapolis General Hospital. Both physicians are engaging in general practice.

* * *

"Facts and Figures about Infantile Paralysis," (1948 edition), a publication of the National Foundation for Infantile Paralysis, is now available to physicians and public health workers. Incidence of the disease in the United States is shown in tables, maps and charts. Statistics furnish information on age and sex distribution, case rates, crippling conditions and mortality. For the first time, the publication includes data on the disease in foreign countries.

Copies of the booklet (No. 59) may be secured free of charge from the Education Service, National Foundation for Infantile Paralysis, 120 Broadway, New York 5, N. Y.

* * *

A native of Saint Paul, Dr. Paul B. Magnuson, has been appointed chief medical director of the Veterans Administration. Appointed by VA administrator Carl R. Gray, Jr., of Saint Paul, Dr. Magnuson succeeds Dr. Paul R. Hawley, who resigned on December 31.

Born in Saint Paul, Dr. Magnuson took his pre-

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medical training at the University of Minnesota, then studied medicine at the University of Pennsylvania. An orthopedic surgeon, he has practiced in Chicago since 1908. He is professor of surgery and chairman of the Department of Bone and Joint Surgery at Northwestern University. Since 1945, Dr. Magnuson has been second in command of veterans' medical services, under Dr. Hawley.

* * *

A roundtable discussion on cancer concluded the annual meeting on January 20 of the Minnesota Division of the American Cancer Society, held in the auditorium of the University of Minnesota Museum of Natural History.

Speakers at the discussion, which was open to the public, were Dr. Arthur H. Wells, Duluth, president of the division and chairman of the roundtable talk; Dr. Henry Michelson, head of the Department of Dermatology at the University; Dr. R. S. Ylvisaker, clinical associate professor of internal medicine; Dr. Maynard Nelson, clinical instructor of surgery; Dr. Dean Fleming, chief of the preventable disease section of the Minnesota Department of Health, and Dr. J. C. Erhrenberg, Minneapolis gynecologist.

* * *

Inducted as president of the American Academy of Orthopaedic Surgeons on January 28, at its annual meeting in Chicago, Dr. Myron O. Henry of Minneapolis stated that orthopedic surgery is making "fabulous" strides. Citing statistics to show the need for this type of survery, he said that (1) about 1,150,000 persons were hurt in auto accidents in 1947, many suffering complicated bone and joint injuries; (2) disabling accidents occurred to 10,400,000 persons in 1946, with 370,000 of them becoming permanently disabled, and (3) at least 6,850,000 Americans now have rheumatism or arthritis, and 2,600,000 more have specific orthopedic faults.

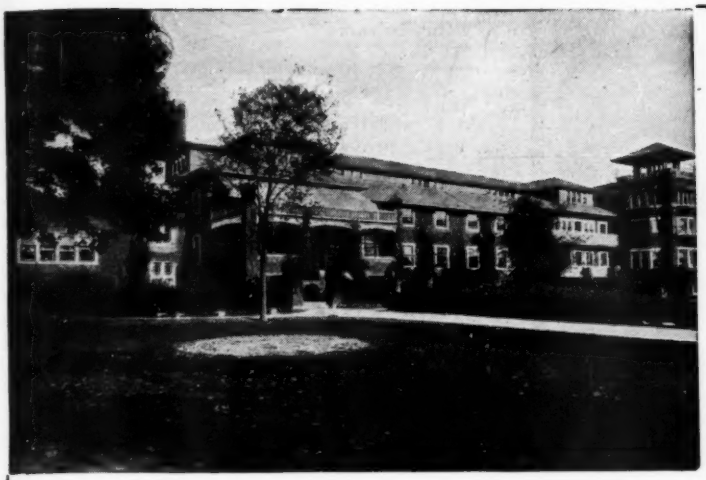
A graduate of the University of Minnesota in 1920, Dr. Henry is a staff member of Northwestern Hospital, Minneapolis, and a clinical assistant professor of surgery at the University of Minnesota.

* * *

New cement building blocks, designed to reduce dampness in low-cost homes, have been developed by Dr. H. R. Tregilgas, Saint Paul.

When he discovered that many of his patients with pulmonary diseases were living in damp basement houses, the Saint Paul physician decided that prevention might be better than cure. Looking for some means of reducing dampness in cement building blocks, he found a way of sandwiching an asphalt insulation board between two concrete sections held together with galvanized reinforcing wire.

Tests conducted at the University of Minnesota Institute of Technology have shown that the new blocks increase insulating efficiency about 40 per cent. At the present, temperature and moisture tests are being conducted in a five-room house which was recently constructed of the new blocks in South Saint Paul.



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Southwestern Minnesota Health Day, the first occasion of its kind in Minnesota, was held in Worthington on February 23. Participating in the all-day meeting were representatives from Pipestone, Murray, Cottonwood, Rock, Nobles and Jackson counties.

Panel discussions on community health problems, home and farm safety, and child behavior problems were included in the program prepared by local public health workers and representatives of the Minnesota Department of Health. Also shown during the day were several motion pictures on home safety, nutrition, dental health and similar subjects. At the evening meeting, the six winners of a health and safety poster contest, which had been held in the high schools of the six counties, were introduced. Principal speaker of the evening was Governor Luther W. Youngdahl. Among physicians participating in the health day were Dr. B. O. Mork, Jr., Worthington, and Dr. Robert N. Barr of the Minnesota Department of Health.

* * *

Dr. George N. Aagaard, Minneapolis, has been appointed by the Board of Regents of the University of Minnesota to succeed the late Dr. William A. O'Brien as director of postgraduate medical education at the University.

A graduate of the University of Minnesota Medical School in 1937, Dr. Aagaard interned at the St. Cloud Hospital and at Minneapolis General Hospital. In 1942, following four years of general practice in Minneapolis, he was appointed to a medical fellowship at the University, and in 1943 he was named a clinical instructor in medicine. With his appointment to admitting physician in the Division of Internal Medicine in 1946, he was promoted to the rank of assistant professor.

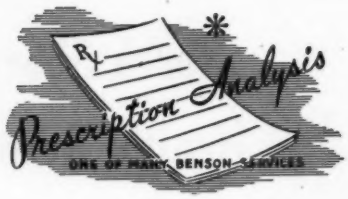
Last year, Dr. Aagaard re-entered the private practice of medicine in Minneapolis, but retained a clinical professorship in medicine at the University. His new appointment as director of postgraduate medical education, which became effective March 1, carries the rank of associate professor of medicine.

* * *

The first cure of rhinoscleroma by streptomycin has been announced.

Reported recently in the *Proceedings of the Staff Meetings of the Mayo Clinic*, the successful nonsurgical treatment of the rare nose disease was described by Dr. Kenneth D. Devine, Dr. Lyle A. Weed, Dr. Donald R. Nichols and Dr. Gordon B. New of the Mayo Clinic.

While considering performing a tracheotomy on a patient with rhinoscleroma, the physicians discovered bacteria of the Klebsiella family in one of the hard masses of tissue that had grown down into the larynx. Accordingly, it was decided to try streptomycin therapy. After one week of streptomycin injections, it became necessary to halt treatment because of the development of side reactions. Twelve days later, the streptomycin injections were resumed and then continued for forty-three consecutive days. After receiving 95 grams of streptomycin within a period of two months,



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the patient was pronounced clinically cured. A plastic operation was later performed on the patient's nostrils to replace scar tissue with skin grafts.

* * *

At a special meeting of the Park Region Medical Society in Fergus Falls on January 16, representatives of the Minnesota Department of Health explained the functions and purposes of a unit of the state department that was to be established in the city to take care of twelve counties in that part of the state.

Introduced by Dr. W. L. Burnap, Fergus Falls, were Dr. Robert N. Barr, Dr. Percy T. Watson, and Miss Nora Rolf, field nurse, all of the State Department of Health. The three speakers pointed out that the new unit would be similar to five already set up throughout the state—at Duluth, Bemidji, Rochester, Worthington and Mankato—and that plans were to add three more units. They said that the unit at Fergus Falls would consist of a part-time physician, a sanitation engineer, a field nurse and a clerk, who would supervise county public health nurses, investigate sources of communicable disease, take part in health programs, and assist local physicians in preventing disease. The local unit would be a means of bringing the functions and aid of the Minnesota Department of Health more directly into the community.

* * *

The Cottonwood County Medical Club, of which Dr. Homer Basinger of Windom is secretary, has announced that vaccinations against smallpox and diphtheria were carried out on October 24 and November 21, 1947, in the six towns of Cottonwood Couny—Windom, Bingham Lake, Mt. Lake, Storden, Jeffers and Westbrook.

Immunization clinics were organized by the local physicians and the County Nursing Service in conjunction with the Minnesota Department of Health. Information was distributed to children in both rural and town schools, and newspapers carried advance information regarding the clinics. As a result, the following vaccinations were carried out: smallpox—1,097 (11 in children under one year of age, 133 in the one-to-four age group, and 953 in those five years or over); diphtheria—1,558 (22 in those under one year, 201 in the one-to-four age group, and 1,328 in those five years or over). In addition, 607 diphtheria booster inoculations were given (33 in the one-to-four group). The reason given for the low number vaccinated in the preschool age group is that it is estimated that 80 per cent of the children in this group had already been vaccinated before they were two years old.

* * *

Though many Minnesota physicians are under the impression that the Emergency Maternity and Infant Care program (EMIC) has been discontinued, actually it is still in operation but undergoing a gradual process of liquidation.

The U. S. Children's Bureau recently announced that maternity care is available only to those who were eligible on June 30, 1947—which means that all maternity care will be completed by the spring of 1948, although babies born to this group of patients will be entitled to

receive immunizations and care of illnesses during the first year of life, thereby not ending the EMIC program until the spring of 1949.

Eligibility for benefits under the program is based on three major qualifications: (1) the husband must be or have been in the four lower pay grades, or an aviation cadet; (2) he must have been in the service on or before June 30, 1947; (3) the wife must have become pregnant by June 30, 1947, and been pregnant at some time while the husband was in one of the four lower pay grades of the service.

Physicians have been urged to accept these patients in order that the EMIC program may be completed without difficulty. Further information may be obtained from the Division of Maternal and Child Health, Minnesota Department of Health, University Campus, Minneapolis.

* * *

With the opening of a cancer detection center at the University of Minnesota Hospitals during the week of February 22, another weapon has been provided for the continuing battle against the disease which kills more than 400 Americans daily.

Under the directorship of Dr. David State, assistant professor of surgery at the University, the new center is being financed by the Minnesota Division of the American Cancer Society, the National Cancer Institute of the U. S. Public Health Service and the University's Malignant Disease Research Fund.

Not a clinic for providing treatment, the new cancer detection center is a place to which symptomless men and women of Minnesota, aged forty-five and over, may go for a thorough physical examination. If the examination reveals any indication of cancer or a pre-cancerous condition, the person examined will be advised to seek immediate treatment from his personal physician, and a report of the findings will be sent to that physician.

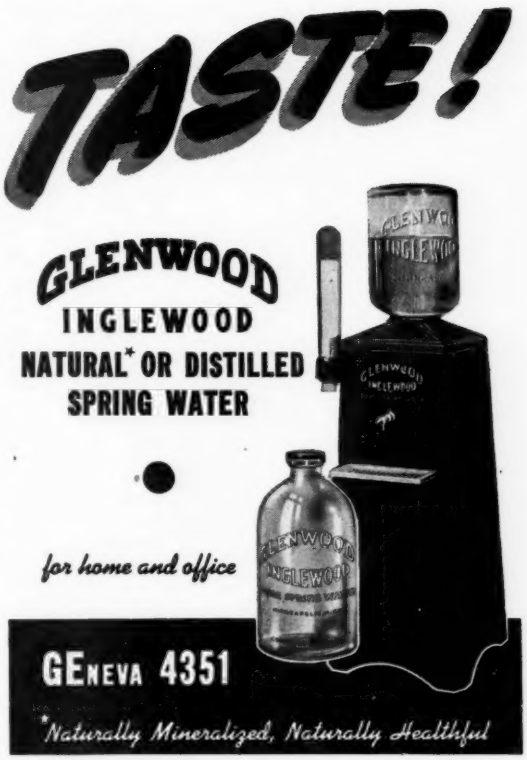
Any Minnesota resident, aged forty-five or over, can phone or write the cancer detection center for an appointment. A $5 registration fee is charged, though no one is turned away for lack of funds. The center is open two days each week, Tuesday for women, and Thursday for men, hours 8 a.m. to 5 p.m. Capacity of the center is between twenty and thirty persons each day. The complete examination requires a full day, and includes complete blood and urine examinations as well as a chest x-ray. When gastrointestinal x-ray studies are indicated, an appointment is made for a later date.

* * *

New AMA Directory

Physicians who have not returned their directory information cards, supplying information for the new American Medical Directory, are urged to do so. A second request is being sent out by the AMA to those who have not returned the first one.

Members of the Minnesota State Medical Association are automatically members of the AMA. How-



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ever, they pay no dues directly or indirectly to the AMA. Only those who subscribe to the AMA *Journal* or one of the medical journals published by the association, paying the $12 subscription price and thus supporting the scientific program of the association, are entitled to be classified as AMA Fellows and to attend the scientific meetings. Members are urged to subscribe to the AMA *Journal* and to apply for Fellowship in the association.

* * *

Wanted by Postal Authorities

The Post Office Department would like to obtain information leading to the arrest of an expert check forger named Jerome Poster, who also goes by various aliases. His eyesight is allegedly impaired by a recent self-inflicted injury, but the actual presence or extent of impairment of vision is questionable.

He is described as follows: age 24, height 6 feet, weight 186 pounds, chesnut-colored eyes, black curly hair, dark complexion, medium slender build. A dark brown mole is present on his right cheek. He is Jewish but looks Italian.

Anyone possessing information as to this man's whereabouts should notify Post Office Inspector F. L. Pierce, Saint Paul, Minnesota (Telephone: Cedar 8033, extension 446 or 428).

BLUE SHIELD NEWS

This is the first article written by the Minnesota Medical Service, Inc., to be published in MINNESOTA MEDICINE. Each month, a similar article will be published to bring to the physicians of the state the latest information on Blue Shield. We feel that the physicians of the state should be informed as to what is going on in regard to their "baby" and that they will be interested in its growth and development.

At the present time, more than 2,100 licensed doctors of medicine in the State of Minnesota have signed agreements to become Blue Shield participating doctors of medicine. With support like that the Minnesota Blue Shield cannot fail. To date there are 153 Blue Shield groups throughout the state, or 3,910 contracts in effect. That means that about 10,000 persons are protected by Blue Shield.

The first payment on claims was made on January 15, 1948. It was for $227.50 and covered nine cases. The February 15 pay-off was for $864 and covered seventeen cases. Thus far, we have paid twenty-six claims for a total of $1,091.50. It is anticipated that the March payments will well exceed the $1,000 mark.

The Blue Shield belongs to the doctors, and it is in their power to make it the best in the country or cause it to fail. The doctors of the state don't want a failure. Also, they do not want an organization that is not operated by professional men. As a result, the board

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of directors is composed of eleven physicians, one from each of the state congressional districts and two from the state at large. These men are open to suggestions, and it is suggested that the district member be contacted if it is felt that anything should be brought to the attention of the board. The board members and their districts are:

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Dr. W. W. Yaeger
Marshall
District No. 3

Always remember that the Blue Shield is your organization, supported by and governed by the medical profession, and it is within your power to make or break it.

HOSPITAL NEWS

Staff officers of the following Minnesota hospitals were elected to office during January and February.

Wesley Hospital, Wadena.—At the annual meeting of the medical staff of Wadena's Wesley Hospital on January 7, Dr. C. W. Lewis of Henning was elected chairman of the medical staff. Named as vice chairman was Dr. E. C. Hanson of New York Mills, while Dr. Robert Pierce, Wadena, was elected secretary.

St. Mary's Hospital, Minneapolis.—Dr. F. B. Mach, newly appointed chief of staff of St. Mary's Hospital in Minneapolis, commenced his new duties on January 13 when the staff members held their first meeting of the year. A graduate of the University of Minnesota Medical School, Dr. Mach has been a member of the staff of St. Mary's Hospital for more than thirty years.

St. Luke's Hospital, Duluth.—Chief of staff of St. Luke's Hospital, Duluth, is Dr. Gordon C. MacRae, who was named to succeed Dr. A. O. Swenson at the annual meeting of the hospital staff on January 15. Dr. S. E. Urberg was elected to the office of vice chief of staff. At the meeting the following officers were named for two-year terms: Dr. S. H. Boyer, Jr., chief of medicine; Dr. P. N. Bray, chief of obstetrics; Dr. A. L. Abraham, chief of x-ray section; Dr. F. C. Jacobson, chief of anesthesiology, and Dr. M. H. Tibbetts, chief of orthopedics.

Eitel Hospital, Minneapolis.—It was announced on January 24 that Dr. Wallace I. Nelson had been elected chief of staff of Eitel Hospital, Minneapolis, to succeed Dr. Frank Hirschfield. Also elected to office were Dr. Alfred T. Baker, assistant chief of staff, and Dr. Melvin B. Sinykin, secretary-treasurer.

Hibbing General Hospital, Hibbing.—At the annual

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$15,000.00 accidental death *$75.00 weekly indemnity, accident and sickness*	**$24.00** *Quarterly*
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staff banquet on February 9, marking the sixth year of operation for Hibbing General Hospital, announcement was made of new officers elected for 1948. Chief of staff is Dr. C. N. Harris, while Dr. Andrew Sinamark is vice president and Dr. Robert A. Murray is secretary. Departmental heads include Dr. C. Jacobson, surgery; Dr. Randall S. Derifield, medicine; Dr. L. W. Morsman, ophthalmology; Dr. Sinamark, otolaryngology; Dr. B. F. Flynn, pediatrics; Dr. T. A. Estrem, obstetrics; Dr. Carlyle Tingdale, contagion; Dr. C. S. Raadquist, x-ray, and Dr. R. E. Hansen, laboratory.

Swedish Hospital, Minneapolis.—On February 14 it was announced that Dr. Reuben Erickson had been named chief of staff of Swedish Hospital in Minneapolis. Named as vice chairman was Dr. Lawrence Carlson. Listed as heads of various committees were Dr. Robert Quello, Dr. M. L. Fredlund, Dr. Hamlin Mattson, Dr. J. S. Milton, Dr. Horace Scott and Dr. H. I. Gustason.

* * *

"The Relationship Between Hospital and Community" was the title of an address by District Judge Mark Nolan at the annual meeting of St. Mary's Hospital staff in Duluth on February 5. Election of staff officers was held at a business session of the meeting. Dr. C. O. Kohlbry, chief of staff-elect, in 1947, succeeded Dr. L. R. Gowan as chief of staff of the hospital.

* * *

The Madison Hospital Association announced early in January that it had received a gift of a set of general surgical instruments and a promise of an x-ray machine as soon as the new hospital was ready for its installation. The gift and the promise were from three local physicians, Dr. Nels Westby, Dr. W. N. Lee, and Dr. Magnus Westby, and constituted a definite step forward in the development of hospital facilities in Madison.

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In Rochester on January 12, at the annual meeting of stockholders of the Kahler Corporation, hope was expressed that an addition of Colonial Hospital would be completed by August. Officers and directors of the group were re-elected. They remain Roy Watson, president and general manager; C. N. Judd, vice president; H. J. Harwick, secretary-treasurer, and M. M. Hayden, assistant secretary, with the other directors consisting of W. W. Lawler, Dr. M. S. Henderson and Dr. P. S. Hench.

* * *

The Ely-Winton Community Hospital, formerly the Winton School, was being remodeled during February to become a memorial dedicated to Ely-Winton youths who died in World War II. Cost of conversion was expected to be $50,000, more than two-thirds of which had been raised through solicitation by the end of January. The completed hospital will have thirty-five beds. On the board of trustees are Dr. O. E. Snyker, chairman, Frank Romsich, Bernard Hutar, C. V. Hammerstrom, Mrs. Ruth King, Uno Saari and Urho Salminen.

* * *

A drive to establish a community hospital at Harmony got under way in January. At a public meeting, Stanley Todd was named chairman of a citizens hospital committee to organize and conduct the campaign. Among those named to serve on the committee was Dr. Carl G. Nelson, Harmony.

* * *

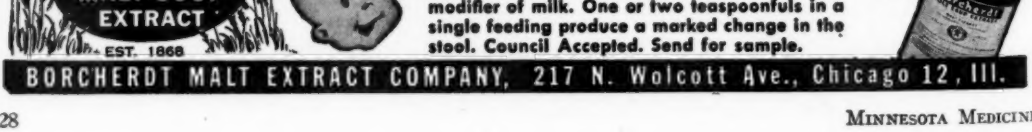
Among nursing and hospital leaders participating in a meeting at Saint Paul on February 2 were Dr. P. F. Eckman, Duluth, member of the state board of examination and licensure of practical nurses; Sister M. Vivian, O.S.B., director of nursing at St. Mary's Hospital, Duluth, and Miss Hazel Gabrielson, superintendent of nurses at St. Luke's Hospital, Duluth. The group heard a report made by the Minnesota Advisory Committee on Nursing on what is being done to remedy the nurses shortage in Minnesota.

* * *

Members of the hospital commission of Baudette were in Park Rapids on January 18 inspecting its one-year-old hospital and gathering information that would aid in the construction of the Baudette hospital. Included in the group were Dr. A. A. Brink and Dr. Charles E. Stafford.

* * *

For the thirty-first consecutive year, Dr. O. F. Mellby, Thief River Falls, has been elected president of the Oakland Park Sanatorium commission. His re-election took place at the annual meeting of the commission on January 9.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Two radio talks on hospital construction were given in February by Dr. Viktor Wilson, chief of the Section on Special Services of the Minnesota Department of Health. Sponsored by the Blue Cross, in co-operation with the Minnesota Hospital Association and the Minnesota Nurses Association, the talks were entitled "Priorities for Your Hospital Building" and "Hospitals Where We Need Them," and were presented over station WTCN on February 9 and 23, respectively. Dr. Wilson reported the results of the state hospital survey, and gave information on the planning of new hospitals and the expansion of present ones, on the establishing of priorities for government grants for construction, and on the scientific placement of hospitals for best use.

* * *

The annual report of Oakland Park Sanatorium, prepared by Dr. B. A. Borreson, superintendent, showed that maintenance expenses of the institution increased considerably during the last year. Total expense of the sanatorium increased from $58,904 in 1946 to $65,865 in 1947, while total cost per day per patient increased from $3.57 to $4.30. Receipts in 1947 from state aid, paying patients, and other sources, amounted to $18,151.

* * *

Seven Waseca County physicians appeared before the Waseca city council on January 13 to urge improvement and enlargement of the Waseca Memorial Hospital. Not asking for immediate action in expanding the eighteen-bed hospital to optimum size, the physicians suggested that construction of a small addition, large enough to store supplies and equipment, would make it possible to convert the present basement into hospital rooms for eight or ten patients. An increase in patients might enable the hospital to make expenses, instead of operating at a loss as it had during the last year, they pointed out. Optimum size of the hospital, to be aimed at when construction costs are lower and if financial aid can be obtained, would be forty to fifty beds.

The physicians present at the meeting were Dr. R. H. Davis, Dr. O. J. Swenson, Dr. S. C. G. Oeljen, Dr. H. M. McIntire, Dr. B. J. Gallagher, all of Waseca, and Dr. R. C. Hottinger and Dr. C. T. Wadd, of Janesville.

* * *

Minnesota Hospital Service Association elected the following officers at its annual board meeting on February 19: S. W. Pinkerton, Saint Paul, re-elected president; D. E. Bronson, Minneapolis, vice president; Dr. Peter D. Ward, Saint Paul, secretary; E. M. Jorgenson, Minneapolis, treasurer; and Harry E. Kern, Saint Paul, assistant treasurer.

HOSPITAL CONSTRUCTION PROGRAM FOR MINNESOTA

Details of a $25,000,000 hospital construction program, in which the Federal government would aid by contributing $8,300,000 over a five-year period, were announced late in January by Dr. Viktor O. Wilson, chief of the

Division of Special Services of the Minnesota Department of Health.

Under a plan recommended by a Minnesota hospital survey committee, the state would be divided into eleven regions, with the Twin Cities serving as a base area. The University of Minnesota Hospitals and the Medical School would be the principal base hospital for the entire state. The eleven regional hospitals would be in Crookston, Brainerd, Hibbing, Virginia, Fergus Falls, Duluth, St. Cloud, Willmar, Worthington, Mankato and Rochester.

Throughout the eleven regions there would be seventy-five "area" hospitals and thirty-nine "rural" hospitals, placing 98.5 per cent of Minnesota's citizens within twenty miles of adequate hospital facilities.

On the basis of the plan and according to results of a survey conducted in 1947, a priority list has been prepared for proper allotting of Federal funds to communities and areas to help finance the building and equipping of hospitals. The priority list is divided into four groups, according to the degree of need for facilities. In Group A are nineteen communities in which no hospital is located. Group B consists of thirty-six communities which have hospitals but no existing acceptable beds. Group C, also with thirty-six communities includes those with hospitals which need improvement or enlargement. The remaining thirty-five of the communities considered fall into Group D.

Opportunity to apply for Federal funds to finance one-third of the cost of construction and equipment will be offered according to priority number on the list, starting with Group A. After the opportunity is offered, community authorities will have thirty days to indicate a desire to construct a hospital under the terms of the plan. The community will then have sixty days to have preliminary plans drawn up and approved and to show ability to finance the project. An additional six months will then be allowed so that complete plans may be formulated and everything made ready for the start of construction.

If these deadlines are not met, the community loses its priority for the year and must wait until the following year before it can obtain funds. In the meantime, the opportunity is offered to the next name on the list.

Among requirements that must be met to qualify for receiving aid are (1) need for the hospital as shown in the state plan for hospital service; (2) public or nonprofit ownership of the hospital; (3) assurance by the owner that hospital service will be provided in the community without discrimination on account of race, creed or color; (4) assurance that services will be provided in reasonable amount to persons in the community unable to pay therefor; (5) ability of the owner to finance two-thirds the cost of construction; (6) ability of owner to finance the operation of the hospital, for which evidence must be provided; (7) ownership of a suitable site for the hospital, and (8) development of blueprint plans and specifications for construction by a registered architect in conformity with state and Federal regulations.

Communities receving the first nineteen priorities (Group A) are Pine River, Baudette, Sandstone, Cambridge, Aitkin, Forest Lake, Olivia, Le Sueur, Spring Valley, Grand Marais, Red Lake Falls, Sauk Centre, Blackduck, Elbow Lake, Wells, Greenbush, Karlstad, Floodwood and Zumbrota.

In Group B, receiving priorities 20 through 55, are Bagley, Long Prairie, Shakopee, Cook, Slayton, New Prague, Wheaton, Paynesville, Preston, Watertown, Buffalo, Winnebago, Anoka, Madison, Breckenridge, Pine City, Morris, Ortonville, Pelican Rapids, Cass Lake, Gaylord, Granite Falls, Mahnomen, Worthington, St. James, Moorhead, Blue Earth, Marshall, Deer River, Cloquet, Brainerd, Hastings, Springfield, International Falls, Two Harbors and Eveleth.

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BOOK REVIEWS

Books listed here become the property of the Ramsey, Hennepin and St. Louis County Medical Libraries when reviewed. Members, however, are urged to write reviews of any or every recent book which may be of interest to physicians.

TREATMENT BY DIET. Fifth Edition. Clifford J. Barborka, B.S., M.S., M.D., D.Sc., F.A.C.P. Assistant Professor of Medicine, Northwestern University Medical School, Chicago; Attending Physician, Passavant Memorial Hospital; Consultant in Gastro-enterology and Gastroscopy, Diagnostic Center, Hines Veterans Hospital; Formerly Consulting Physician, Mayo Clinic. 784 pages. Illus. Price, $10.00, cloth. Philadelphia: J. B. Lippincott Co., 1948.

BRIEF PSYCHOTHERAPY. A Handbook for Physicians on the Clinical Aspects of Neuroses. Bertrand S. Frohman, M.D. With collaboration of Evelyn P. Frohman. Foreword by Walter C. Alvarez, M.D. 265 pages. Price, $4.00, cloth. Philadelphia: Lea & Febiger, 1948.

OPERATIVE GYNECOLOGY. Sixth Edition. Harry Sturgeon Crossen, M.D. Professor Emeritus of Clinical Gynecology, Washington University School of Medicine; Consulting Gynecologist to Barnes Hospital, St. Louis Maternity Hospital, St. Luke's Hospital, De Paul Hospital and Jewish Hospital; and Robert James Crossen, M.D., Assistant Professor of Clinical Gynecology and Obstetrics, Washington University School of Medicine; Assistant Gynecologist and Obstetrician to the Barnes Hospital and St. Louis Maternity Hospital; Gynecologist to St. Luke's Hospital and De Paul Hospital. 999 pages. Illus. Price $15.00, cloth. St. Louis: C. V. Mosby Co., 1948.

DIABETES MELLITUS IN GENERAL PRACTICE. Arthur R. Colwell, M.D., Associate Professor of Medicine and Director of Medical Specialty Training, Northwestern University Medical School; Attending Physician, Evanston Hospital, Evanston, Illinois; Consulting Physician, Wesley Memorial Hospital, Chicago. 350 pages. Illus. Price $5.25. Chicago: Year Book Publishers, 1947.

In the most recent of the General Practice Manuals, the Year Book Publishers have presented a practical review on the subject of Diabetes Mellitus by Dr. Arthur Colwell of Northwestern University. An evaluation of this book must necessarily consider the value of the entire series. Their purpose is to give the general practitioner a concise and timely review of the subject in question, with emphasis on clinical application. In the reviewer's opinion, the series has proved of inestimable value to the acquisitive but busy practitioner who is attempting to keep pace with the many developments in the constantly changing realms of medicine. Some of the books in the series have fallen short of the aims of the publisher; others, among them Dr. Colwell's book, have accomplished their objectives remarkably well.

In *Diabetes in General Practice,* the author puts greatest emphasis on the management of the diabetic patient. He limits his discussion of the more academic questions of etiology, pathogenesis, et cetera, to the first forty-eight pages of his text; in the remaining 290 pages, he clearly and concisely sets down his recommendations on diabetic diet, desugarization, insulin administration, the management of acute complications, including diabetic coma and insulin shock, and, finally, the management of chronic complications. He places at the disposal of the busy practitioner an opportunity to gain insight in a few hours into diabetic problems that all too many busy doctors never adequately mastered. He does not fall into the error so frequently seen in medical writing, of covering his subject in so few words that the practical information sought is not set down.

The author does not afford himself space to present conflicting opinions on some of the points covered in the text. While, in some instances, this may lead to false premises, on the whole, it adds to the clarity and readibility of the book. His instructions for calculating the diabetic diet are sufficiently lucid to allow even the least dietary minded of physicians the oppo-tunity to prescribe diabetic diets with a minimum of food lists and tables. The food tables presented in the text, together with the graphs showing the actions of the various insulin preparations, are, in the reviewer's opinion, the highlight of the book. The author covers the subject of insulin therapy thoroughly, including a good discussion of the use of insulin mixtures.

In the last two chapters of the book, the disease's complications and its effect on other diseases and bodily states are discussed. Diabetic acidosis is broken down into its grades of severity, and the methods of handling the various stages are considered. The important problem of diabetes in pregnancy is covered. Chronic complications, ideas as to their etiology, the possibility or impossibility of remedial care, and their management are carefully reviewed.

In summing up, it is believed that the book should serve to bring better diabetic care into the hands of the general practitioner seeking such aid. That it will not take the place of the more complete texts on the subject is obvious. It is highly recommended for its wealth of applicable information.

HENRY B. BLUMBERG, M.D.

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TUBERCULOSIS. Francis Marion Pottenger, A.M., M.D., L.L.D., Professor of Medicine, University of Southern California School of Medicine, Medical Director of the Pottenger Sanatorium and Clinic for Diseases of the Chest, Monrovia, California. 579 pages. Illus. Price, $12.50. St. Louis: C. V. Mosby Co., 1948.

The distinguished medical director of the Pottenger Sanatorium has again drawn on his very extensive experience to prepare a textbook on pulmonary tuberculosis. In this volume much of the later literature is reviewed and some of the newer concepts of phthisiogenesis are discussed. His views on the relationship of visceral neurology to pulmonary disease occupy two chapters, in which he has emphasized the value of the demonstration of reflexes originating in pulmonary pathology. Many physicians lack his skill in detecting and interpreting such reflexes. Four chapters are devoted to the time-honored methods of physical diagnosis, all of which will help in the accurate detection of lesions which have progressed to an extent appreciable by such measures. In minimal cases the diagnosis must often be made, without their aid, from a study of the patient's history, tuberculin tests, sputum tests, including gastric expression and serial x-rays.

The discussion of the treatment of pulmonary tuberculosis is practically a résumé of all the measures that have been in vogue thus far in the twentieth century, not all of which, including open air treatment, tuberculin and heliotherapy, are considered necessary or advisable in many cases today.

In his discussion of collapse therapy, the advantages of pneumothorax are enumerated as contrasted with other operative procedures, and special advantages are claimed for it. Rest of the diseased lung is, of course, the object of all collapse therapy, as the author has made plain. The modern thoracic surgeon has, as the author admits, several resources besides pneumothorax, and he must be called upon to use them in the individual case as necessity arises. No general regime will fit all patients. They are safest if under the constant close observation of a group of specialists, preferably in a sanatorium, and including an experienced chest surgeon.

The book contains much useful information. Physicians in charge of tuberculosis patients should also have access to other late books and the current literature.

A. T. LAIRD, M.D.

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